

# NW

**Inverter / MPPT Charger / AC Charger**

EleQtra Energy Brings Light to the World!



## ELEQTRA ENERGY (PTY) LTD

ELEQTRA ENERGY (PTY) LTD is a comprehensive energy solutions provider. Provide comprehensive energy storage system solutions for all applications. Provide professional power energy solutions for education systems, telecommunications, power systems, transportation, government agencies, banking security, scientific research, medical institutions, military, and large industrial and mining enterprises. Eleqtra Energy originated in China and is now rooted on the African continent. We collaborate with ambitious young people in Africa to promote world leading solar energy storage technology to the continent. Green energy will illuminate Africa, create partnerships, and create value!

Numbers  
Speak For  
Themselves!

120+

Long-Term  
Partner

100+

Countries  
and regions

200+

Product  
Category

15Y

Time in the  
industry

# Qualification Certification

| ISO9001                                                                                                                                                                                                                | QUALITY MANAGEMENT SYSTEM CERTIFICATE | ISO45001                                                                                                                                                                                                               | OCCUPATIONAL HEALTH AND MANAGEMENT SYSTEM CERTIFICATE | ISO14001                                                                                                                                                                                                                                                   | ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| We hereby certify that the organization:                                                                                                                                                                               |                                       | We hereby certify that the organization:                                                                                                                                                                               |                                                       | We hereby certify that the organization:                                                                                                                                                                                                                   |                                             |
| LISHUI YIYEN                                                                                                                                                                                                           |                                       | LISHUI YIYEN TECHNOLOGY COMPANY LIMITED                                                                                                                                                                                |                                                       | LISHUI YIYEN TECHNOLOGY COMPANY LIMITED                                                                                                                                                                                                                    |                                             |
| Unified social credit code: 91331127MA2E079Y8T                                                                                                                                                                         |                                       | Unified social credit code: 91331127MA2E079Y8T                                                                                                                                                                         |                                                       | Unified social credit code: 91331127MA2E079Y8T                                                                                                                                                                                                             |                                             |
| is in conformity with                                                                                                                                                                                                  |                                       | is in conformity with Occupational Health Safety Management System                                                                                                                                                     |                                                       | is in conformity with Environmental Management System Standard:                                                                                                                                                                                            |                                             |
| GB/T45001-2020 idt ISO45001:2018                                                                                                                                                                                       |                                       | GB/T45001-2020 idt ISO45001:2018                                                                                                                                                                                       |                                                       | GB/T24001-2016 idt ISO14001:2015                                                                                                                                                                                                                           |                                             |
| The certificate is valid to the following products/service:                                                                                                                                                            |                                       | The certificate is valid to the following products/service:                                                                                                                                                            |                                                       | The certificate is valid to the following products/service:                                                                                                                                                                                                |                                             |
| The assembly and related management activities of Voltage Inverter, Photovoltaic Equipment (MPPT Solar Charge, Uninterruptible Power Supply, Emergency Power Supply, Energy Storage System, Battery Management System) |                                       | The assembly and related management activities of Voltage Inverter, Photovoltaic Equipment (MPPT Solar Charge, Uninterruptible Power Supply, Emergency Power Supply, Energy Storage System, Battery Management System) |                                                       | The assembly and related management activities of Voltage Stabilizer, Inverter, Photovoltaic Equipment (MPPT Solar Charge, PCS), Uninterruptible Power Supply, Emergency Power Supply, Battery Pack Energy Storage System, Battery Management System (BMS) |                                             |
| Registration Address/Audit Address: No.77,Xiang Long Road,Lian Du City,Zhejiang Province, China.                                                                                                                       |                                       | Registration Address/Audit Address: No.77,Xiang Long Road,Lian Du City,Zhejiang Province, China.                                                                                                                       |                                                       | Registration Address/Audit Address: No.77,Xiang Long Road,Lian Du City,Zhejiang Province, China.                                                                                                                                                           |                                             |
| Date of Issue: 2022-09-22                                                                                                                                                                                              |                                       | Date of Issue: 2022-09-22                                                                                                                                                                                              |                                                       | Date of Issue: 2022-09-22                                                                                                                                                                                                                                  |                                             |
| Date of Expiry: 2025-09-22                                                                                                                                                                                             |                                       | Date of Expiry: 2025-09-22                                                                                                                                                                                             |                                                       | Date of Expiry: 2025-09-22                                                                                                                                                                                                                                 |                                             |
| Date of Initial: 2022-09-22                                                                                                                                                                                            |                                       | Date of Initial: 2022-09-22                                                                                                                                                                                            |                                                       | Date of Initial: 2022-09-22                                                                                                                                                                                                                                |                                             |
| Issued By: [Signature]                                                                                                                                                                                                 |                                       | Issued By: [Signature]                                                                                                                                                                                                 |                                                       | Issued By: [Signature]                                                                                                                                                                                                                                     |                                             |
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| 中国认可 国际互认 管理体系 管理体系 MANAGEMENT SYSTEM CNAS C197-M                                                                                                                                                                      |                                       | 中国认可 国际互认 管理体系 管理体系 MANAGEMENT SYSTEM CNAS C197-M                                                                                                                                                                      |                                                       | 中国认可 国际互认 管理体系 管理体系 MANAGEMENT SYSTEM CNAS C197-M                                                                                                                                                                                                          |                                             |
| The audit of validity of the certificate, the certificate shall be at least once a year.                                                                                                                               |                                       | The audit of validity of the certificate, the certificate shall be at least once a year.                                                                                                                               |                                                       | The audit of validity of the certificate, the certificate shall be at least once a year.                                                                                                                                                                   |                                             |
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| IEC TCEE                                                                                                                                                                                                                                                                                                            | IEC TCEE                                                                                                                                                                                                                                                                                                            | IEC TCEE                                                                                                                                                                                                                                                                                                            |
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| Ref. Cert. No. NL-108037                                                                                                                                                                                                                                                                                            | Ref. Cert. No. NL-108794                                                                                                                                                                                                                                                                                            | Ref. Cert. No. NL-1087281                                                                                                                                                                                                                                                                                           |
| IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME                                                                                                                                                                                                                   | IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME                                                                                                                                                                                                                   | IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME                                                                                                                                                                                                                   |
| CB TEST CERTIFICATE                                                                                                                                                                                                                                                                                                 | CB TEST CERTIFICATE                                                                                                                                                                                                                                                                                                 | CB TEST CERTIFICATE                                                                                                                                                                                                                                                                                                 |
| Product: Rechargeable Li-Ion Battery Pack                                                                                                                                                                                                                                                                           | Product: Rechargeable Li-Ion Battery Cluster                                                                                                                                                                                                                                                                        | Product: Rechargeable Li-Ion Battery System                                                                                                                                                                                                                                                                         |
| ATTESTATION OF CONFORMITY                                                                                                                                                                                                                                                                                           | ATTESTATION OF CONFORMITY                                                                                                                                                                                                                                                                                           | ATTESTATION OF CONFORMITY                                                                                                                                                                                                                                                                                           |
| Issued to: LISHUI YIYEN TECHNOLOGY CO., LTD. (Lijiang National Industrial Park) No. 77 Xianglong Road, Nanningshan Street, Lian Du District, Lian Du City, Zhejiang Province, P.R. China                                                                                                                            | Issued to: LISHUI YIYEN TECHNOLOGY CO., LTD. (Lijiang National Industrial Park) No. 77 Xianglong Road, Nanningshan Street, Lian Du District, Lian Du City, Zhejiang Province, P.R. China                                                                                                                            | Issued to: LISHUI YIYEN TECHNOLOGY CO., LTD. (Lijiang National Industrial Park) No. 77 Xianglong Road, Nanningshan Street, Lian Du District, Lian Du City, Zhejiang Province, P.R. China                                                                                                                            |
| For the product: Power Conversion Module                                                                                                                                                                                                                                                                            | For the product: Power Conversion System                                                                                                                                                                                                                                                                            | For the product: Power Conversion System                                                                                                                                                                                                                                                                            |
| Trade name: YTY                                                                                                                                                                                                                                                                                                     | Trade name: YTY                                                                                                                                                                                                                                                                                                     | Trade name: YTY                                                                                                                                                                                                                                                                                                     |
| Type/Model: UP-M42.5KW, UP-M-100KW                                                                                                                                                                                                                                                                                  | Type/Model: UP-M42.5KW, UP-M-100KW                                                                                                                                                                                                                                                                                  | Type/Model: UP-M42.5KW, UP-M-100KW                                                                                                                                                                                                                                                                                  |
| Manufacturer: LISHUI YIYEN TECHNOLOGY CO., LTD. (Lijiang National Industrial Park) No. 77 Xianglong Road, Nanningshan Street, Lian Du District, Lian Du City, Zhejiang Province, P.R. China                                                                                                                         | Manufacturer: LISHUI YIYEN TECHNOLOGY CO., LTD. (Lijiang National Industrial Park) No. 77 Xianglong Road, Nanningshan Street, Lian Du District, Lian Du City, Zhejiang Province, P.R. China                                                                                                                         | Manufacturer: LISHUI YIYEN TECHNOLOGY CO., LTD. (Lijiang National Industrial Park) No. 77 Xianglong Road, Nanningshan Street, Lian Du District, Lian Du City, Zhejiang Province, P.R. China                                                                                                                         |
| Requirements: EN IEC 61000-6-2:2019, EN IEC 61000-6-4:2019                                                                                                                                                                                                                                                          | Requirements: EN IEC 61000-6-2:2019, EN IEC 61000-6-4:2019                                                                                                                                                                                                                                                          | Requirements: EN IEC 61000-6-2:2019, EN IEC 61000-6-4:2019                                                                                                                                                                                                                                                          |
| This Attestation is granted on account of an examination by DEKRA, the results of which are laid down in a confidential file no. 6174214.53                                                                                                                                                                         | This Attestation is granted on account of an examination by DEKRA, the results of which are laid down in a confidential file no. 6174215.50                                                                                                                                                                         | This Attestation is granted on account of an examination by DEKRA, the results of which are laid down in a confidential file no. 6174227.50                                                                                                                                                                         |
| The examination has been carried out on one single specimen or several specimens of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA. | The examination has been carried out on one single specimen or several specimens of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA. | The examination has been carried out on one single specimen or several specimens of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA. |
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| Kerry Lin Certification Manager                                                                                                                                                                                                                                                                                     | Kerry Lin Certification Manager                                                                                                                                                                                                                                                                                     | Kerry Lin Certification Manager                                                                                                                                                                                                                                                                                     |
| © Integral publication of this attestation and adjoining reports is allowed Page 1 of 2                                                                                                                                                                                                                             | © Integral publication of this attestation and adjoining reports is allowed                                                                                                                                                                                                                                         | © Integral publication of this attestation and adjoining reports is allowed                                                                                                                                                                                                                                         |
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# YIY Residential Energy Storage System

YIY residential energy storage system is a highly flexible and customizable solution suitable for a variety of home energy application scenarios. The system includes inverter, LiFePO4 battery pack, photovoltaic distribution box with built-in MPPT, and an intelligent energy management system that can be monitor by APP.

Users can freely configure devices according to their needs, supporting multiple modes such as backup power supply, off-grid power generation, self-generation and AC-coupled photovoltaic energy storage. The system not only provides stable and efficient power, but also improves energy self-sufficiency and reduces electricity costs. Users can monitor energy use in real time through a simple operation interface to ensure the optimal operation of the system in various environments, meeting the needs of modern families for intelligent, safe and environmentally friendly energy storage.



Back-up Power



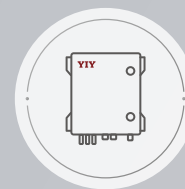
Off Grid



Self-Consumption



AC-Coupled



## PV Combiner Box

- Built-in MPPT
- Easy installation
- Easy to expand



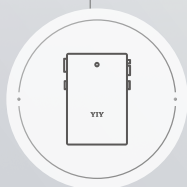


### Cloud+APP

- Monitoring system



### Solar Panels



### Battery

- Modular Design
- Wall-mounted / rack-mounted optional

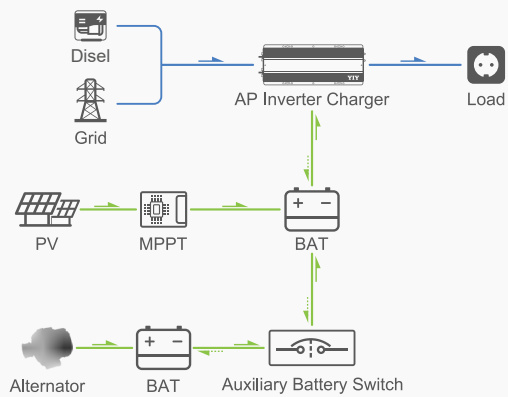


### Inverter

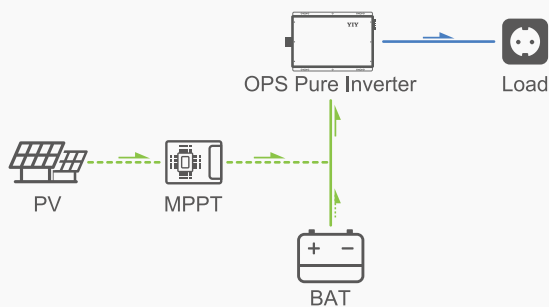
- Off Grid/Hybrid Inverter

# What is an complete power system for your vehicles?

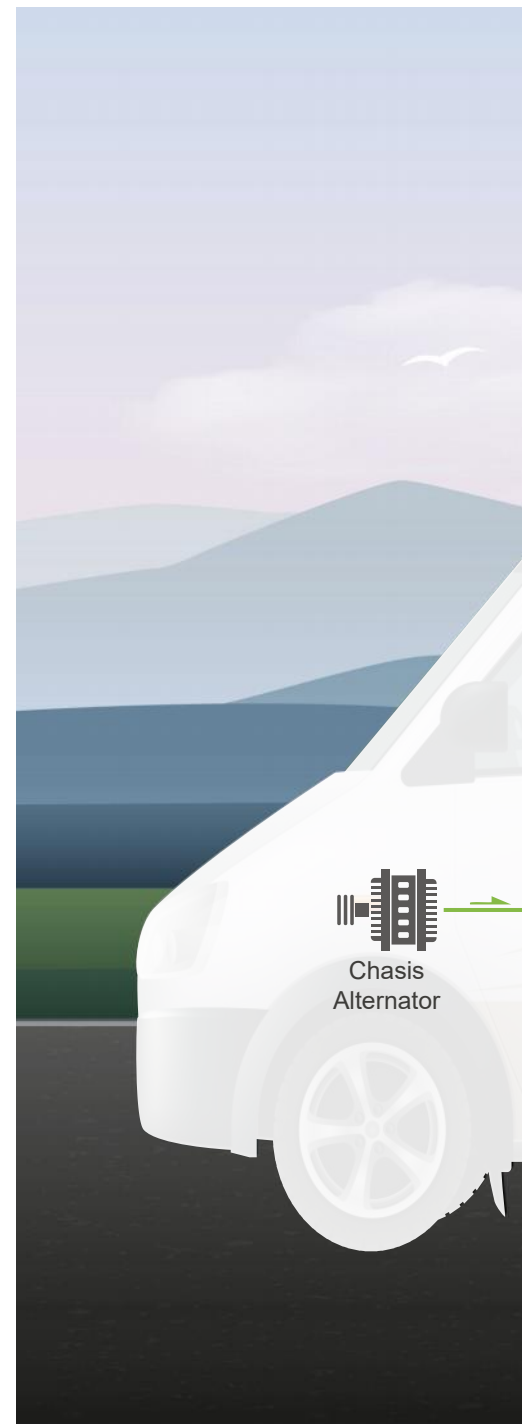
## • Technology Topology



System 1

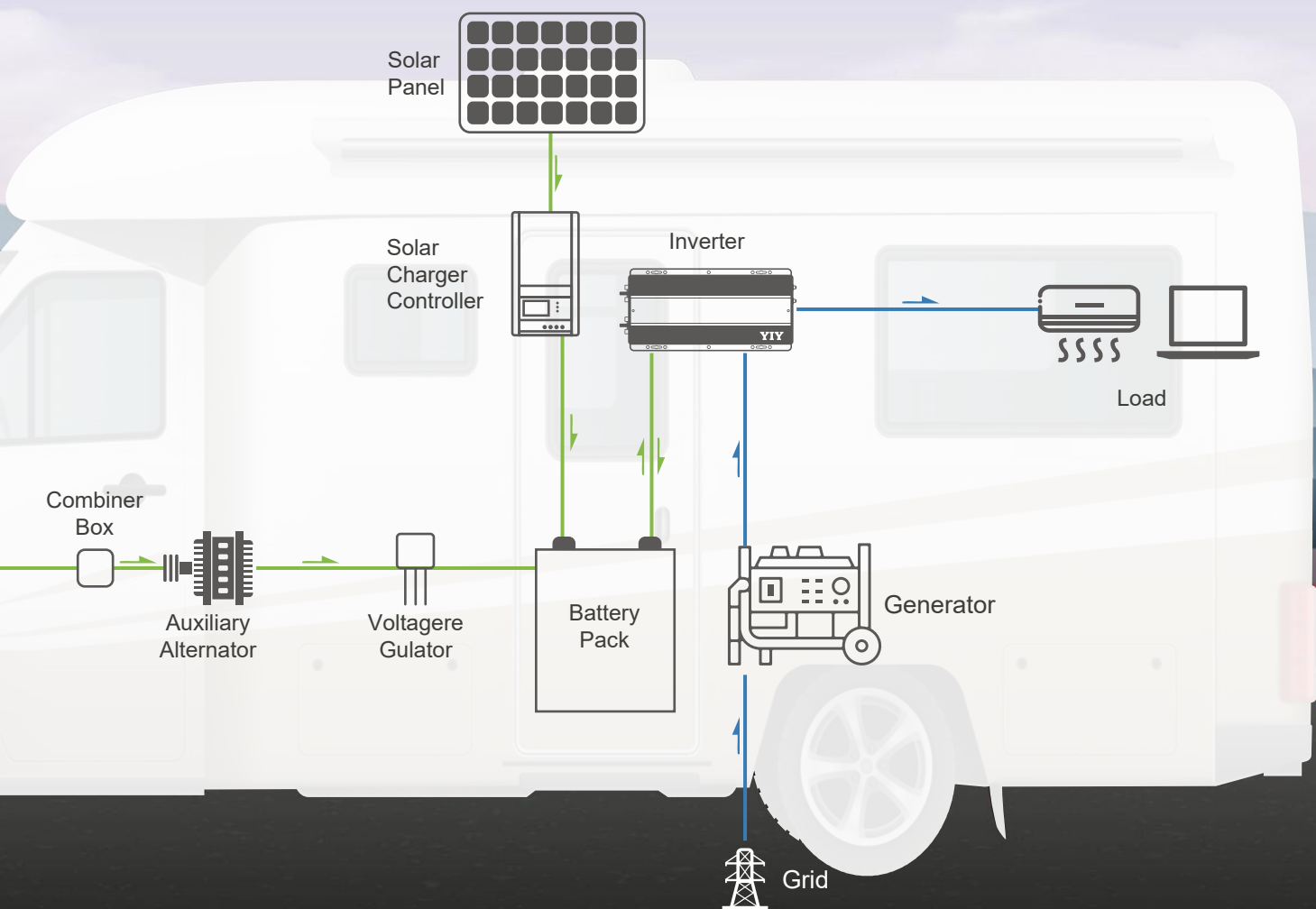


System 2

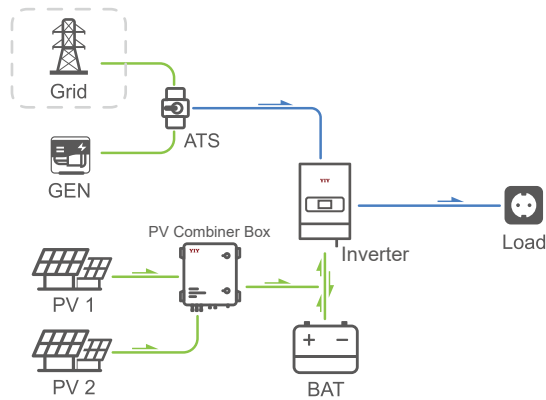


**YIY energy storage system for vehicles** is an integrated solution for providing reliable and sustainable power in various vehicle applications, including recreational vehicles (RVs), ambulances, trucks, and buses etc.

This system leverages solar energy and advanced energy storage technology to ensure uninterrupted power supply for onboard equipment and appliances. It will include the following key components: Pure Sine Wave Inverter, Lithium-ion Battery Packs, Solar Charge Controller, Solar Panels, Monitoring and Control System, etc.



## Off-Grid System



Designed for areas without grid access or the grid is unstable, this system provides reliable power through energy storage and smart controls. It stores excess energy when available and switches to off-grid mode during outages, ensuring key devices stay operational. Ideal for remote locations or high-reliability power needs.

### Application:

- Emergency Power Supply
- Backup Power
- Mobile Energy Storage System
- Microgrid



TP Series



HP-W Series

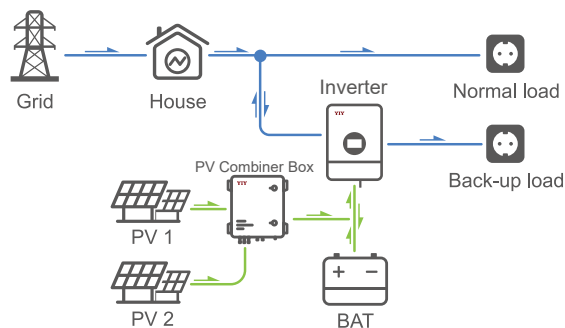


SMP Series



SVP Series

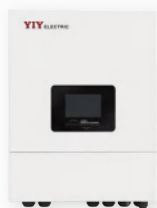
## Hybrid On/Off-Grid System



This system combines on-grid and off-grid modes for flexible energy management. In on-grid mode, it prioritizes solar power to reduce grid dependence and cut costs. During outages, it automatically switches to off-grid mode, using stored energy to ensure continuous power and energy self-sufficiency, especially in extreme conditions.

### Application:

- Peak Shaving
- Microgrid
- Backup Power
- Load Shifting
- Self-consumption

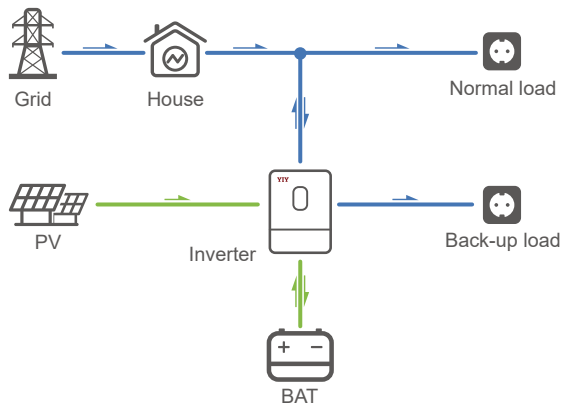


TP Series



HES Series

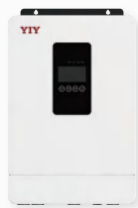
## Hybrid System



This system not only supports off-grid applications and hybrid on-off grid power supply applications, but it can also prioritize the use of solar energy, batteries, and grid power according to the user's actual needs. It meets the needs of improving electricity usage and increases self-consumption rates.

### Application:

- Self-consumption
- Energy Management
- Backup Power
- Peak Shaving
- EV Charging Station



SMP Series

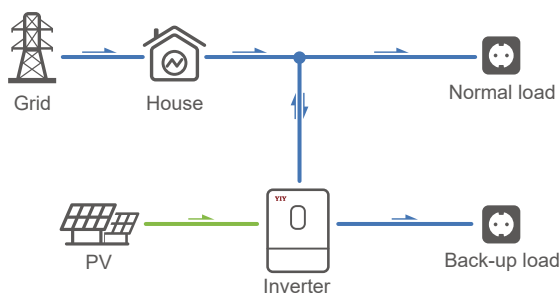


SVP Series



HES Series

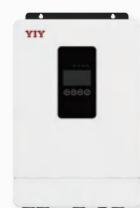
## Solar-utility Hybrid Off Grid System



This is applicable when the battery is completely discharged or there is no battery at all. The inverter prioritizes supplying power to the connected loads to inverter using energy generated by the photovoltaic system. If the photovoltaic energy is insufficient, power is supplemented by the grid. This approach aims to minimize the system configuration costs while maximizing the utilization of photovoltaic energy.

### Application:

- Agricultural Irrigation Or Greenhouse Cultivation
- Street Light And Traffic Lights
- Water Heater



SMP Series

# SMP 1.2kW

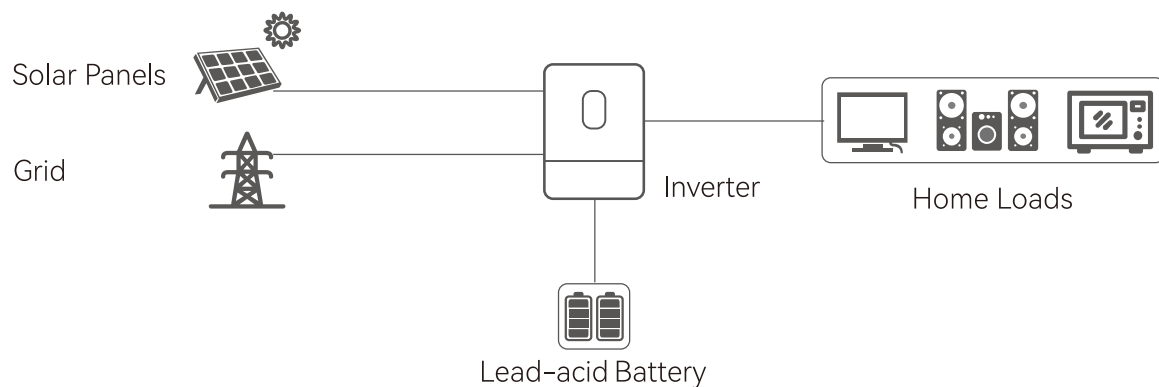
## Off-grid Inverter



### • Features

- Built-in 60A Solar Charger
- PV Input Voltage Range 20-125V
- Pure Sine Wave
- LCD Display
- Support Lithium/Lead-acid Battery
- Lithium Battery Activation
- Power Factor 1.0
- Detachable Dust Cover

### • System Diagram



**• Technical Parameter**

| <b>SMP 1.2kW Series Off-grid Inverter</b> |                                                           |
|-------------------------------------------|-----------------------------------------------------------|
| Model                                     | SMP-1212-10                                               |
| <b>AC Input</b>                           |                                                           |
| Rated Input Voltage (Vac)                 | 208/220/230/240;L+N+PE                                    |
| Voltage Range (Vac)                       | 90~280+3(normal mode);170~280±3 (UPS mode)                |
| Frequency (Hz)                            | 50/60(Auto Adaptive)                                      |
| <b>AC Output</b>                          |                                                           |
| Rated Capacity (Kw)                       | 1.2                                                       |
| Surge Power (Kva)                         | 2.4                                                       |
| Voltage (Vac)                             | 208/220/230/240                                           |
| Power Factor (PF)                         | 1                                                         |
| Frequency                                 | 50/60Hz±0.1%                                              |
| Switch Time (ms)                          | 10 (normal mode) /10 (UPS mode)                           |
| Wave Form                                 | Pure Sine Wave                                            |
| Overload Capacity (Battery Mode)          | 10min@102%~120%load; 60s@120%~150% load;10s@150%~200%load |
| Max. Efficiency (Battery Mode)            | 90%@12Vdc                                                 |
| Parallel Quantity                         | NA                                                        |
| <b>Charger (PV/AC)</b>                    |                                                           |
| Solar Charger Type                        | MPPT                                                      |
| Max PV input current/power                | 14A/1000W                                                 |
| MPPT Range@Operating Voltage (Vdc)        | 18~100                                                    |
| Max PV Open Circuit Voltage (Vdc)         | 125                                                       |
| Max PV Charge Current (A)                 | 60                                                        |
| Max AC Charge Current (A)                 | 60                                                        |
| Max. Charge Current (PV + AC)(A)          | 120                                                       |
| <b>Battery</b>                            |                                                           |
| Normal Voltage (Vdc)                      | 12                                                        |
| Floating Charge Voltage (Vdc)             | 13.8                                                      |
| Overcharge Protection (Vdc)               | 15                                                        |
| Battery Type                              | Lead-acid                                                 |
| <b>Interface</b>                          |                                                           |
| HMI                                       | LCD                                                       |
| Interface                                 | RS485/RS232                                               |
| Monitoring                                | NA                                                        |
| <b>General Data</b>                       |                                                           |
| Ingress Protection                        | IP21                                                      |
| Operating Temperature                     | -10 °C~ 50 °C                                             |
| Relative Humidity                         | 5%~95%(Non-condensing)                                    |
| Storage Temperature                       | -15°C~60°C                                                |
| Net Weight (kg)                           | 3.2                                                       |
| Dimensions(W*H*D)                         | 347*236*91mm                                              |
| Max. Operating Altitude                   | 4000m(Derating above 1000m)                               |
| <b>Activation</b>                         |                                                           |
| AC Activation                             | Yes                                                       |
| PV Activation                             | Yes                                                       |

# SMP 3.6-6kW

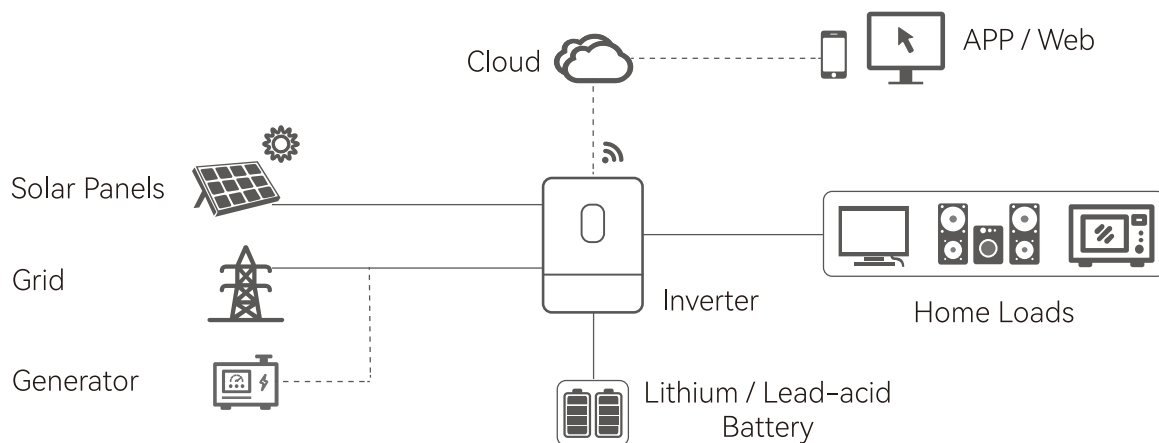
## Off-grid Inverter



### • Features

- Built-in Solar Charger 100A/120A
- Wide PV Input Voltage Range
- Workable with Generator
- Complete CE Certificate
- Support Lithium/Lead-acid Battery
- Lithium Battery Activation
- Detachable Dust Cover
- WiFi Monitoring(optional)
- With the ability to work without battery.

### • System Diagram



### • Technical Parameter

| SMP 3.6-6kW Series Off-grid Inverter |                                                                                     |                    |             |
|--------------------------------------|-------------------------------------------------------------------------------------|--------------------|-------------|
| Model                                | SMP-3624-50                                                                         | SMP-5048-90        | SMP-6048-90 |
| AC Input                             |                                                                                     |                    |             |
| Rated Input Voltage (Vac)            | 208/220/230/240;L+N+PE                                                              |                    |             |
| Voltage Range (Vac)                  | 90~280+3(normal mode);170~280±3 (UPS mode)                                          |                    |             |
| Frequency (Hz)                       | 50/60(Auto Adaptive)                                                                |                    |             |
| AC Output                            |                                                                                     |                    |             |
| Rated Capacity (Kw)                  | 3.6                                                                                 | 5                  | 6           |
| Surge Power (Kva)                    | 5.7                                                                                 | 10                 | 12          |
| Voltage (Vac)                        | 208/220/230/240                                                                     |                    |             |
| Power Factor (PF)                    | 1                                                                                   |                    |             |
| Frequency                            | 50/60Hz±0.1%                                                                        |                    |             |
| Switch Time (ms)                     | 10 (normal mode) /10 (UPS mode)                                                     |                    |             |
| Wave Form                            | Pure Sine Wave                                                                      |                    |             |
| Overload Capacity (Battery Mode)     | 60s@102%~110% load;<br>10s@110%~130% load;<br>3s@130%~150% load;<br>0.2s@>150% load | 10S@>150%Load      |             |
| Max. Efficiency (Battery Mode)       | 92.7%@24Vdc                                                                         | 94%@48Vdc          |             |
| Parallel Quantity                    | NA                                                                                  |                    |             |
| Charger (PV/AC)                      |                                                                                     |                    |             |
| Solar Charger Type                   | MPPT                                                                                |                    |             |
| Max PV Input Current /Input Power    | 18A/5000W                                                                           | 27A/9000W          |             |
| MPPT Range@Operating Voltage (Vdc)   | 40~450                                                                              | 60~450             |             |
| Max PV Open Circuit Voltage (Vdc)    | 500                                                                                 |                    |             |
| Max PV Charge Current (A)            | 100                                                                                 | 120                |             |
| Max AC Charge Current (A)            | 100                                                                                 | 120                |             |
| Max. Charge Current (PV + AC)(A)     | 100                                                                                 | 120                |             |
| Battery                              |                                                                                     |                    |             |
| Rated Voltage (Vdc)                  | 24                                                                                  | 48                 |             |
| Floating Charge Voltage (Vdc)        | 27                                                                                  | 54                 |             |
| Overcharge Protection (Vdc)          | 30.5                                                                                | 61                 |             |
| Battery Type                         | Lithium and Lead-acid                                                               |                    |             |
| Interface                            |                                                                                     |                    |             |
| HMI                                  | LCD                                                                                 | LCD (RGB optional) |             |
| Interface                            | RS232/RS485 /USB /Dry Contact                                                       |                    |             |
| Monitoring                           | WiFi (Optional)                                                                     |                    |             |
| General Data                         |                                                                                     |                    |             |
| Ingress Protection                   | IP21                                                                                |                    |             |
| Operating Temperature                | -10 °C~ 50 °C                                                                       |                    |             |
| Relative Humidity                    | 5%~95%(Non-condensing)                                                              |                    |             |
| Storage Temperature                  | -15°C~60°C                                                                          |                    |             |
| Net Weight (kg)                      | 6.4                                                                                 | 10                 |             |
| Dimensions(W*H*D)                    | 420*284*94mm                                                                        | 410*336*110mm      |             |
| Max. Operating Altitude              | 4000m(Derating above 1000m)                                                         |                    |             |

# SMP 8-12kW

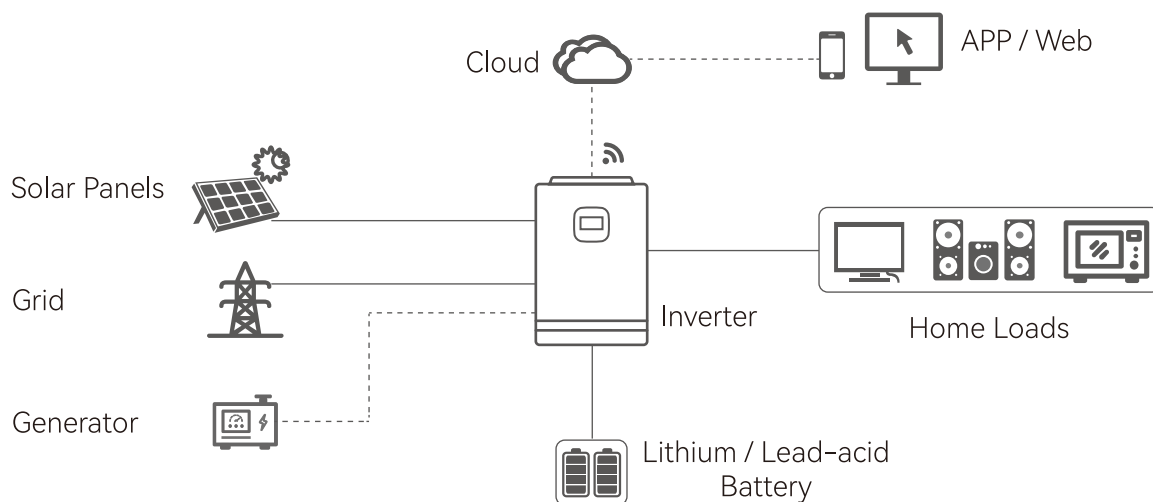
## Off-grid Inverter



### • Features

- Sectional charge/discharge; supports lead-acid & lithium batteries with dual activation.
- Hybrid/grid-connected with anti-backflow; battery-less solar+grid operation.
- Four charging modes plus power-saving mode.
- Dual output (inverter/bypass) for uninterrupted pure sine-wave UPS.
- Full digital SPWM control & dual MPPT (99.9% efficiency).
- 360° protection and intelligent cooling (variable-speed fan, AC switch).

### • System Diagram



**• Technical Parameter**

| SMP 8-12kW Series Off-grid Inverter   |                                                                                                                                                                                                                                                 |                                  |                                  |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------|
| Models                                | SMP-8048-110/<br>SMP-8048-110P                                                                                                                                                                                                                  | SMP-11048-110/<br>SMP-11048-110P | SMP-12048-120/<br>SMP-12048-120P |
| Parallel mode                         |                                                                                                                                                                                                                                                 |                                  |                                  |
| Permitted parallel number             | NO/1~6                                                                                                                                                                                                                                          |                                  |                                  |
| AC mode                               |                                                                                                                                                                                                                                                 |                                  |                                  |
| Rated input voltage                   | 230Vac±5%                                                                                                                                                                                                                                       |                                  |                                  |
| Input voltage range                   | (170Vac~280Vac)±2%<br>(90Vac-280Vac)±2%                                                                                                                                                                                                         |                                  |                                  |
| Frequency                             | 50Hz/60Hz (Auto detection)                                                                                                                                                                                                                      |                                  |                                  |
| Frequency Range                       | 47±0.3Hz~55±0.3Hz (50Hz);<br>57±0.3Hz~65±0.3Hz (60Hz);                                                                                                                                                                                          |                                  |                                  |
| Overload/short circuit protection     | Circuit breaker                                                                                                                                                                                                                                 |                                  |                                  |
| Efficiency                            | >95%                                                                                                                                                                                                                                            |                                  |                                  |
| Conversion time (bypass and inverter) | 10ms (typical)                                                                                                                                                                                                                                  |                                  |                                  |
| AC reverse protection                 | Yes                                                                                                                                                                                                                                             |                                  |                                  |
| Maximum bypass overload current       | 60A                                                                                                                                                                                                                                             |                                  |                                  |
| Inverter mode                         |                                                                                                                                                                                                                                                 |                                  |                                  |
| Output voltage waveform               |                                                                                                                                                                                                                                                 |                                  |                                  |
| Rated output power (VA)               | 8000                                                                                                                                                                                                                                            | 11000                            | 12000                            |
| Rated output power (W)                | 8000                                                                                                                                                                                                                                            | 11000                            | 12000                            |
| Power factor                          | 1                                                                                                                                                                                                                                               |                                  |                                  |
| Rated output voltage (Vac)            | 230Vac                                                                                                                                                                                                                                          |                                  |                                  |
| Output voltage error                  | ±5%                                                                                                                                                                                                                                             |                                  |                                  |
| Output frequency range (Hz)           | 50Hz±0.3Hz/60Hz±0.3Hz                                                                                                                                                                                                                           |                                  |                                  |
| Maximum Efficiency                    | >93%                                                                                                                                                                                                                                            |                                  |                                  |
| Overload protection                   | (102% < load <125%) ±10%: report error and turn off the output after 5 minutes;<br>(125% < load < 150%) ± 10%: report error and turn off the output after 10 seconds;<br>Load >150% ±10%: report error and turn off the output after 5 seconds; |                                  |                                  |
| Peak power                            | 16000VA                                                                                                                                                                                                                                         | 22000VA                          | 24000VA                          |
| Loaded motor capability               | 5HP                                                                                                                                                                                                                                             | 7HP                              | 8HP                              |
| Output short circuit protection       | Circuit breaker                                                                                                                                                                                                                                 |                                  |                                  |
| Bypass circuit breaker pecification   | 63A                                                                                                                                                                                                                                             |                                  |                                  |
| Rated battery input voltage           | 48V (Minimum starting voltage 44V)                                                                                                                                                                                                              |                                  |                                  |
| Battery voltage range                 | 40.0Vdc~60Vdc±0.6Vdc<br>(Undervoltage alarm/shutdown voltage/overvoltage alarm /overvoltage recovery... settable on LCD screen)                                                                                                                 |                                  |                                  |
| Power saving mode self-consumption    | Load≤50W                                                                                                                                                                                                                                        |                                  |                                  |

| AC charging                                                                |                                           |             |
|----------------------------------------------------------------------------|-------------------------------------------|-------------|
| Battery type                                                               | Lead acid or lithium battery              |             |
| Maximum charge current (can be set)                                        | 120A                                      | 150A        |
| Charge current error                                                       | ±5Adc                                     |             |
| Charge voltage rang                                                        | 40 –60Vdc                                 |             |
| Short circuit protection                                                   | Circuit breaker and blown fuse            |             |
| Circuit breaker specifications                                             | 63A                                       |             |
| PV charging                                                                |                                           |             |
| MPPT way                                                                   | 2                                         |             |
| Maximum PV open circuit voltage                                            | 500Vdc                                    |             |
| PV operating voltage range                                                 | 120-500Vdc                                |             |
| MPPT voltage range                                                         | 90-450Vdc                                 |             |
| Battery voltage range                                                      | 90-450Vdc                                 |             |
| Maximum PV input power                                                     | 5500W+5500W                               | 6000W+6000W |
| Maximum PV input current                                                   | 22A+22A                                   |             |
| PV charging current range (can be set)                                     | 0-150A                                    |             |
| Charging short circuit protection                                          | Blown fuse                                |             |
| Wiring protection                                                          | Reverse polarity protection               |             |
| Hybrid charging Max charger current specifications (AC charger+PV charger) |                                           |             |
| Max charger current (can be set)                                           | 0-150A                                    |             |
| Certified specifications                                                   |                                           |             |
| Certification                                                              | CE(IEC62109-1,2)                          |             |
| EMC certification level                                                    | EN61000, C2                               |             |
| Operating temperature range                                                | -10°C to 55°C,> 45°C drop runs            |             |
| Storage temperature range                                                  | -25°C ~ 55°C                              |             |
| Humidity range                                                             | 5% to 95%(Conformal coating protection)   |             |
| Noise                                                                      | ≤60dB                                     |             |
| Heat dissipation                                                           | Forced air cooling, variable speed of fan |             |
| Communication interface                                                    | USB/RS485(/WiFi/GPRS)/ Dry node control   |             |
| Size (L*W*D)                                                               | 540mm*350mm*120mm                         |             |
| Weight (kg)                                                                | 19.5                                      |             |

# SVP48 3.6-12kW LV

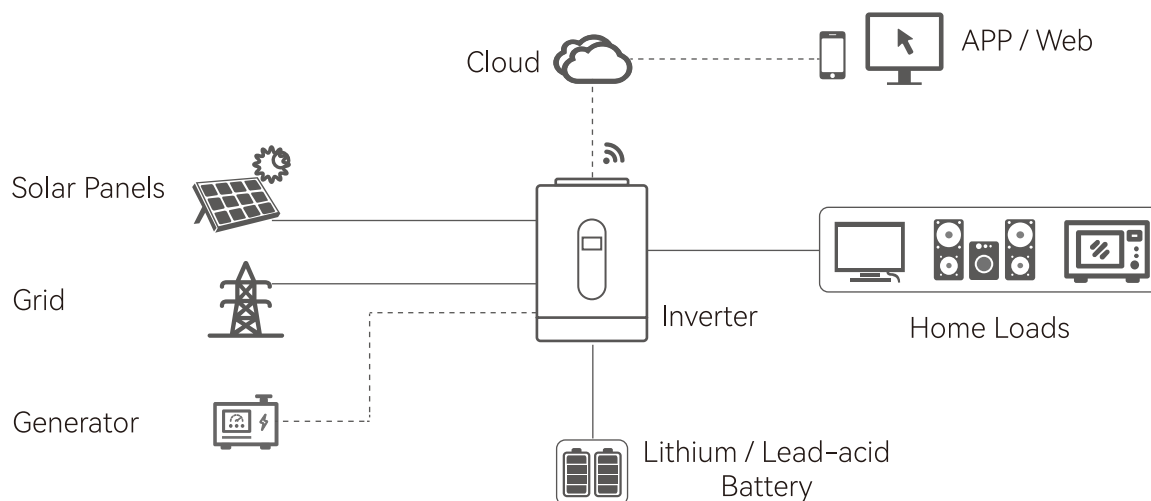
## Hybrid Solar Charge Inverter



### • Features

- Scheduled sectional charge/discharge; dual-activation for lead-acid & lithium batteries.
- Solar-grid-battery hybrid or battery-less operation with anti-feed-in.
- Four charging modes; dual MPPT (99.9% efficiency).
- Pure sine-wave UPS (split/single-phase, 100–127 VAC) with inverter & bypass.
- Touch LCD flow diagram; CAN/USB/Wi-Fi/RS-485 & remote/dry-contact control.
- Power-saving mode; variable-speed fan; 360° protection; optional whole-house CT.

### • System Diagram



**• Technical Parameter**

| SVP48 3.6-12kW LV Series Hybrid Solar Charge Inverter |                                                                                                                                                                                                                                              |             |                                                                                                                                          |                       |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Models                                                | SVP4836LV-P                                                                                                                                                                                                                                  | SVP4865LV-P | SVP48100LV-P                                                                                                                             | SVP48120LV-P          |
| Parallel mode                                         |                                                                                                                                                                                                                                              |             |                                                                                                                                          |                       |
| Permitted parallel number                             | 1~6                                                                                                                                                                                                                                          |             |                                                                                                                                          |                       |
| AC mode                                               |                                                                                                                                                                                                                                              |             |                                                                                                                                          |                       |
| Rated input voltage                                   | 120Vac±5%                                                                                                                                                                                                                                    |             | 120(L1/N, L2/N)/240Vac(L1/L2)                                                                                                            |                       |
| Input phase voltage range                             | (90Vac-140Vac)±2%                                                                                                                                                                                                                            |             | (85Vac~140Vac)±2%                                                                                                                        |                       |
| Frequency                                             | 50Hz/60Hz (Auto detection)                                                                                                                                                                                                                   |             |                                                                                                                                          |                       |
| Frequency Range                                       | 47±0.3Hz~55±0.3Hz (50Hz);57±0.3Hz~65±0.3Hz (60Hz);                                                                                                                                                                                           |             |                                                                                                                                          |                       |
| Overload/short circuit protection                     | Circuit breaker                                                                                                                                                                                                                              |             |                                                                                                                                          |                       |
| Efficiency                                            | >95%                                                                                                                                                                                                                                         |             |                                                                                                                                          |                       |
| Conversion time (bypass and inverter)                 | 10ms (typical)                                                                                                                                                                                                                               |             |                                                                                                                                          |                       |
| AC reverse protection                                 | Yes                                                                                                                                                                                                                                          |             |                                                                                                                                          |                       |
| Maximum bypass phase overload current                 | 40A                                                                                                                                                                                                                                          | 60A         | 2pole, 60A/60A(L1/L2)                                                                                                                    |                       |
| Inverter mode                                         |                                                                                                                                                                                                                                              |             |                                                                                                                                          |                       |
| Output voltage waveform                               | Pure sine wave                                                                                                                                                                                                                               |             |                                                                                                                                          |                       |
| Rated output power (VA)                               | 3600                                                                                                                                                                                                                                         | 6500        | Split phase: 10000                                                                                                                       | Split phase: 12000    |
|                                                       |                                                                                                                                                                                                                                              |             | Single phase: 7200<br>(limited by the wiring terminals)                                                                                  |                       |
| Rated output power (W)                                | 3600                                                                                                                                                                                                                                         | 6500        | Split phase: 10000                                                                                                                       | Split phase: 12000    |
|                                                       |                                                                                                                                                                                                                                              |             | Single phase: 7200<br>(limited by the wiring terminals)                                                                                  |                       |
| Power factor                                          | 1                                                                                                                                                                                                                                            |             |                                                                                                                                          |                       |
| Rated output voltage (Vac)                            | 120Vac                                                                                                                                                                                                                                       |             | 120Vac (L1/N, L2/N)/240Vac(L1/L2)                                                                                                        |                       |
| Output voltage error                                  | ±5%                                                                                                                                                                                                                                          |             |                                                                                                                                          |                       |
| Output frequency range (Hz)                           | 50Hz±0.3Hz/60Hz±0.3Hz                                                                                                                                                                                                                        |             |                                                                                                                                          |                       |
| Maximum Efficiency                                    | >91%                                                                                                                                                                                                                                         |             |                                                                                                                                          |                       |
| Overload protection                                   | (105% < load <110%) ±5%: report error and turn off the output after 5 minutes;<br>(110% < load < 125%) ± 5%: report error and turn off the output after 10 seconds;<br>Load >125% ±5%: report error and turn off the output after 5 seconds; |             |                                                                                                                                          |                       |
| Peak power                                            | 7200VA                                                                                                                                                                                                                                       | 12000VA     | Split phase: 15000VA                                                                                                                     | Split phase: 18000VA  |
|                                                       |                                                                                                                                                                                                                                              |             | Single phase: 15000VA                                                                                                                    | Single phase: 18000VA |
| Loaded motor capability                               | 2HP                                                                                                                                                                                                                                          | 5HP         | 5HP                                                                                                                                      | 6HP                   |
| Output short circuit protection                       | Circuit breaker                                                                                                                                                                                                                              |             | Can protect, after continuous short circuit for 1 second                                                                                 |                       |
| Bypass circuit breaker phase specification            | 40A                                                                                                                                                                                                                                          | 63A         | 2pole, 63A/63A(L1/L2)                                                                                                                    |                       |
| Rated battery input voltage                           | 48V (Minimum starting voltage 44V)                                                                                                                                                                                                           |             | 51.2V (Minimum starting voltage 44V)                                                                                                     |                       |
| Battery voltage range                                 | 40.0Vdc~60Vdc±0.6Vdc<br>(Undervoltage alarm/shutdown voltage/<br>overvoltage alarm /overvoltage recovery...<br>settable on LCD screen)                                                                                                       |             | 40.0Vdc~58.6Vdc±0.6Vdc<br>(Undervoltage alarm/shutdown voltage/<br>overvoltage alarm /overvoltage recovery...<br>settable on LCD screen) |                       |
| Power saving mode self-consumption                    | Load≤50W                                                                                                                                                                                                                                     |             | Load per phase is null or less than 25W enter power-saving mode                                                                          |                       |

| AC charging                                                                |                                           |                   |                                |             |
|----------------------------------------------------------------------------|-------------------------------------------|-------------------|--------------------------------|-------------|
| Battery type                                                               | Lead acid or lithium battery              |                   |                                |             |
| Maximum charge current (can be set)                                        | 40A                                       | 120A              | 120A                           | 160A        |
| Charge current error                                                       | /                                         |                   | ±5Adc                          |             |
| Charge voltage range                                                       | /                                         |                   | 40 –58.6Vdc                    |             |
| Short circuit protection                                                   | /                                         |                   | Circuit breaker and blown fuse |             |
| Circuit breaker phase specifications                                       | /                                         |                   | 2pole, 60A/60A(L1/L2)          |             |
| PV charging                                                                |                                           |                   |                                |             |
| Number of MPPT groups                                                      | /                                         |                   | 2                              |             |
| Maximum PV open circuit voltage                                            | 300Vdc                                    |                   | 500Vdc                         |             |
| PV operating voltage range                                                 | 120-300Vdc                                |                   | 90Vdc~500Vdc                   |             |
| MPPT voltage range                                                         | 90-260Vdc                                 |                   | 80Vdc~450Vdc                   |             |
| Battery voltage range                                                      | 40-60Vdc                                  |                   | 40-58.6Vdc                     |             |
| Maximum PV input power                                                     | 4500W                                     | 4500W+4500W       | 5500W+5500W                    | 6000W+6000W |
| Maximum PV input current                                                   | 27A                                       | 22A+22A           | 22A+22A                        |             |
| PV charge current(can be set)                                              | 0-80A                                     | 0-150A            | 200A                           | 220A        |
| Charging short circuit protection                                          | Blown fuse                                |                   |                                |             |
| Wiring protection                                                          | Reverse polarity protection               |                   |                                |             |
| Hybrid charging Max charger current specifications (AC charger+PV charger) |                                           |                   |                                |             |
| Max charger current (can be set)                                           | 0-80A                                     | 0-150A            | 0-200A                         | 0-220A      |
| Certified specifications                                                   |                                           |                   |                                |             |
| Certification                                                              | CE(IEC62109-1,2)/ UL 1741                 |                   | UL1741                         |             |
| EMC certification level                                                    | EN61000, C2/FCC 15 class B                |                   | FCC part15, CLASS B            |             |
| Operating temperature range                                                | -10°C to 55°C(>45°C derating)             |                   |                                |             |
| Storage temperature range                                                  | -25°C ~ 60°C                              |                   |                                |             |
| Humidity range                                                             | 5% to 95%(Conformal coating protection)   |                   |                                |             |
| Noise                                                                      | ≤60dB                                     |                   |                                |             |
| Heat dissipation                                                           | Forced air cooling, variable speed of fan |                   |                                |             |
| Communication interface                                                    | USB/RS485(/WiFi/GPRS)/ Dry node control   |                   |                                |             |
| Size (L*W*D)                                                               | 415mm*280mm*100mm                         | 540mm*350mm*120mm | 620mm*450mm*132mm              |             |
| Weight (kg)                                                                | 7.8                                       | 18.5              | 23.8                           |             |

# AP

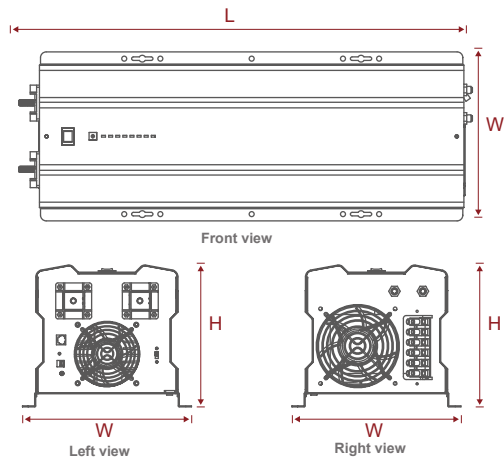
## Low Frequency Inverter Charger



### • Features

- From 600W up to 6KW.
- 230Vac single phase, 120Vac single phase, or 230Vac split phase optional.
- 12V/24V/48V optional.
- AGS, BTS ports compatible.
- Built-in voltage stabilisation (optional).
- Built-in solar controller MPPT (optional).

### • Product Dimensions



| Model        | Size(L*W*H)(mm) |
|--------------|-----------------|
| AP 600W      | 325*173*135mm   |
| AP 1KW~1.5KW | 382*218*179     |
| AP 2KW~3KW   | 442*218*179     |
| AP 4KW~6KW   | 598*218*179     |

**• Technical Parameter**

| AP Series Low Frequency Inverter Charger |                                                                                      |                                                 |                                           |       |                         |       |        |               |        |
|------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------|-------|-------------------------|-------|--------|---------------|--------|
| Inverter Output                          | Model                                                                                | 600W                                            | 1000W                                     | 1500W | 2000W                   | 3000W | 4000W  | 5000W         | 6000W  |
|                                          | Continuous Output Power                                                              | 600W                                            | 1000W                                     | 1500W | 2000W                   | 3000W | 4000W  | 5000W         | 6000W  |
|                                          | Surge Rating (20S)                                                                   | 1800W                                           | 3000W                                     | 4500W | 6000W                   | 9000W | 12000W | 15000W        | 18000W |
|                                          | Capable Of Starting Electric Motor                                                   | 0.6HP                                           | 1HP                                       | 1.5HP | 2HP                     | 3HP   | 4HP    | 5HP           | 6HP    |
|                                          | Output Waveform                                                                      | Pure Sine Wave / Same As Input (Bypass Mode)    |                                           |       |                         |       |        |               |        |
|                                          | Nominal Efficiency                                                                   | 88% (Peak)                                      |                                           |       |                         |       |        |               |        |
|                                          | Line Mode Efficiency                                                                 | >95%                                            |                                           |       |                         |       |        |               |        |
|                                          | Power Factor                                                                         | 0.9-1.0                                         |                                           |       |                         |       |        |               |        |
|                                          | Nominal Output Voltage rms                                                           | 100-110-120Vac / 220-230-240Vac                 |                                           |       |                         |       |        |               |        |
|                                          | Output Voltage Regulation                                                            | ±10% RMS                                        |                                           |       |                         |       |        |               |        |
|                                          | Output Frequency                                                                     | 50Hz ± 0.3Hz / 60Hz ± 0.3Hz                     |                                           |       |                         |       |        |               |        |
|                                          | Short Circuit Protection                                                             | Yes, current limit function (Fault after 1 sec) |                                           |       |                         |       |        |               |        |
|                                          | Typical Transfer Time                                                                | 10ms (Max)                                      |                                           |       |                         |       |        |               |        |
|                                          | THD                                                                                  | <10%                                            |                                           |       |                         |       |        |               |        |
| DC Input                                 | Nominal Input Voltage                                                                | 12.0Vdc                                         |                                           |       |                         |       |        |               |        |
|                                          |                                                                                      | (*2 for 24Vdc, *4 for 48Vdc)                    |                                           |       |                         |       |        |               |        |
|                                          | Min. Start Voltage                                                                   | 10.0Vdc                                         |                                           |       |                         |       |        |               |        |
|                                          | Low Battery Alarm                                                                    | 10.5Vdc/11.0Vdc                                 |                                           |       |                         |       |        |               |        |
|                                          | Low Battery Trip                                                                     | 10.0Vdc/10.5Vdc                                 |                                           |       |                         |       |        |               |        |
|                                          | High Voltage Alarm & Fault                                                           | 16.0Vdc                                         |                                           |       |                         |       |        |               |        |
|                                          | High DC Input Recovery                                                               | 15.5Vdc                                         |                                           |       |                         |       |        |               |        |
|                                          | Low Battery Voltage Recover                                                          | 13.0Vdc                                         |                                           |       |                         |       |        |               |        |
|                                          | Idle Consumption-Search Mode                                                         | <25W when power saver on                        |                                           |       |                         |       |        |               |        |
| Charger                                  | Input Voltage Range                                                                  | Wide: 90-135Vac / 164-243Vac                    |                                           |       |                         |       |        |               |        |
|                                          |                                                                                      | Narrow: 100-135Vac / 194-243Vac                 |                                           |       |                         |       |        |               |        |
|                                          | Output Voltage                                                                       | Depends on battery type                         |                                           |       |                         |       |        |               |        |
|                                          | Charger Breaker Rating                                                               | 7A                                              | 10A                                       | 10A   | 10A                     | 20A   | 20A    | 30A           | 30A    |
|                                          | Max. Charge Rate                                                                     | 20A±5A                                          | 35A/70-90A Max. (Charger current control) |       |                         |       |        |               |        |
|                                          | Over Charge Protection Shutdown                                                      | 15.7V for 12Vdc (*2 for 24Vdc, *4 for 48Vdc)    |                                           |       |                         |       |        |               |        |
|                                          | Charger Curve(4 stage constant current) 4 Step Digital Controlled Progressive Charge | Battery types (*2 for 24Vdc, *4 for 48Vdc)      |                                           |       |                         |       |        |               |        |
|                                          | Switch Setting                                                                       | Description                                     |                                           |       | Fast Mode /VDC          |       |        | Float Mode/DC |        |
|                                          | 0                                                                                    | Charger Off                                     |                                           |       |                         |       |        |               |        |
|                                          | 1                                                                                    | Gel USA                                         |                                           |       | 14.0                    |       |        | 13.7          |        |
|                                          | 2                                                                                    | AGM 1                                           |                                           |       | 14.1                    |       |        | 13.4          |        |
|                                          | 3                                                                                    | Lithium                                         |                                           |       | 13.8                    |       |        | 13.6          |        |
|                                          | 4                                                                                    | Sealed Leac Acid                                |                                           |       | 14.4                    |       |        | 13.6          |        |
|                                          | 5                                                                                    | Gel EURO                                        |                                           |       | 14.4                    |       |        | 13.8          |        |
|                                          | 6                                                                                    | Open Lead Acid                                  |                                           |       | 14.8                    |       |        | 13.8          |        |
|                                          | 7                                                                                    | LifePO4                                         |                                           |       | 14.0                    |       |        | 13.8          |        |
|                                          | 8                                                                                    | De-sulphation                                   |                                           |       | 15.5 (4 Hours then off) |       |        |               |        |
|                                          | 9                                                                                    | Classic LFP                                     |                                           |       | 13.6                    |       |        | 13.5          |        |
|                                          | Remote Control                                                                       | Yes(Optional)                                   |                                           |       |                         |       |        |               |        |

| AP Series Low Frequency Inverter Charger |                                 |                                      |               |      |               |        |               |      |      |
|------------------------------------------|---------------------------------|--------------------------------------|---------------|------|---------------|--------|---------------|------|------|
| Bypass&<br>Protection                    | Input Voltage Waveform          | Sine wave (Grid or Generator)        |               |      |               |        |               |      |      |
|                                          | Nominal Voltage                 | 120Vac                               |               |      |               |        | 230Vac        |      |      |
|                                          | Low Voltage Trip                | 80V/90V±4%                           |               |      |               |        | 184V/154V±4%  |      |      |
|                                          | Low Voltage Re Engage           | 90V/100V±4%                          |               |      |               |        | 194V/164V±4%  |      |      |
|                                          | High Voltage Trip               | 140V±4%                              |               |      |               |        | 253V±4%       |      |      |
|                                          | High Voltage Re Engage          | 135V±4%                              |               |      |               |        | 243V±4%       |      |      |
|                                          | Max Input AC Voltage            | 150Vac                               |               |      |               |        | 270Vac        |      |      |
|                                          | Nominal Input Frequency         | 50Hz or 60Hz (Auto Detection)        |               |      |               |        |               |      |      |
|                                          | Low Frequency Trip              | 47±0.3Hz for 50Hz, 57±0.3Hz for 60Hz |               |      |               |        |               |      |      |
|                                          | Low Frequency Re Engage         | 48±0.3Hz for 50Hz, 58±0.3Hz for 60Hz |               |      |               |        |               |      |      |
|                                          | High Frequency Trip             | 55±0.3Hz for 50Hz, 65±0.3Hz for 60Hz |               |      |               |        |               |      |      |
|                                          | High Frequency Re Engage        | 54±0.3Hz for 50Hz. 64±0.3Hz for 60Hz |               |      |               |        |               |      |      |
|                                          | Output Short Circuit Protection | Circuit breaker                      |               |      |               |        |               |      |      |
|                                          | Bypass Breaker Rating           | 7A                                   | 10A           | 15A  | 20A           | 30A    | 30A           | 40A  | 40A  |
| Transfer Switch Rating                   | 30Amp for UL&TUV                |                                      |               |      |               | 270Vac |               |      |      |
|                                          | Max. Bypass Current             |                                      |               |      |               | 40Amp  |               |      |      |
| Mechanical<br>Specification              | Mounting                        | Wall Mount                           |               |      |               |        |               |      |      |
|                                          | Inverter Dimensions(L*W*H)      | 325*173*135mm                        | 382*218*179mm |      | 442*218*179mm |        | 598*218*179mm |      |      |
|                                          | Inverter Weight                 | 7.5KG                                | 16KG          | 17KG | 20KG          | 24KG   | 35KG          | 45KG | 45KG |
|                                          | Shipping Dimensions(L*W*H)      | 425*230*205mm                        | 520*315*300mm |      | 580*315*300mm |        | 740*315*300mm |      |      |
|                                          | Shipping Weight                 | 8.5KG                                | 18KG          | 19KG | 22KG          | 26KG   | 37KG          | 47KG | 47KG |
|                                          | Display                         | Status LED / Status LED+LCD          |               |      |               |        |               |      |      |



AP-mini Series  
600-1500W



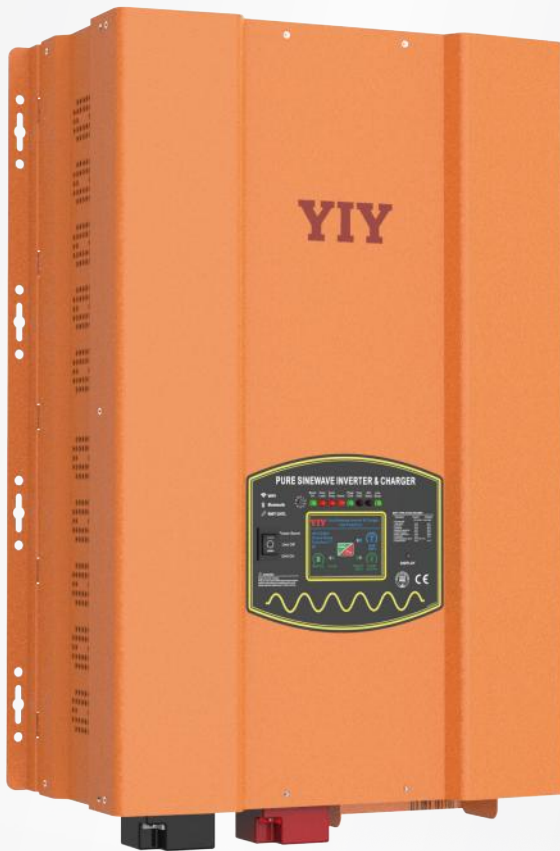
AP Series  
1-6KW



APP Series  
1-6KW

# HP

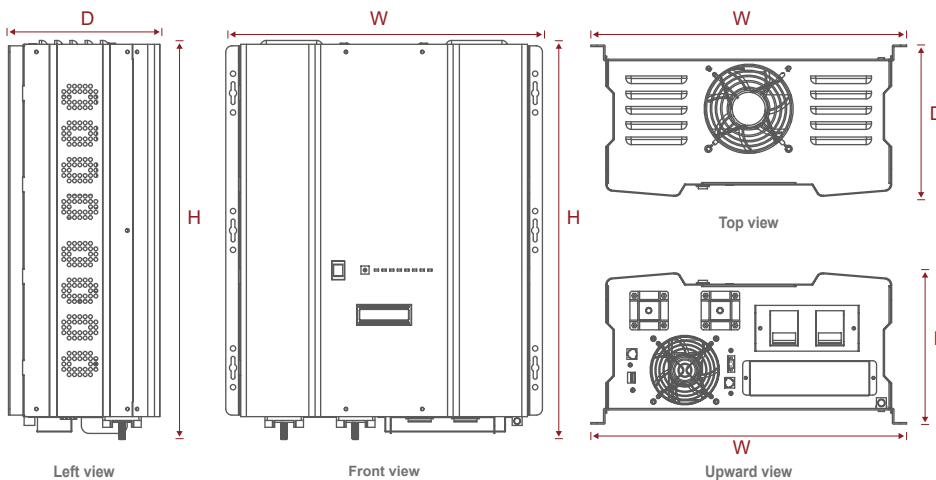
## Low Frequency Inverter Charger



### • Features

- High output capacity up to 20KW.
- Ultra low THD, typically 7% under full linear load (battery low).
- Battery temperature sensing for increased charging Precision.
- Powerful charge rate up to 140Amp, selectable From 0%-100%.
- Auto Gen Start function for off grid system with generator as backup power.
- MPPT solar charger controller available.

### • Product Dimensions



| Model        | Size(H*W*D)(mm) |
|--------------|-----------------|
| HP 1KW~3KW   | 388*415*200     |
| HP 4KW~6KW   | 488*415*200     |
| HP 8KW~12KW  | 588*415*200     |
| HP 15KW~20KW | 706*415*213     |

## • Technical Parameter

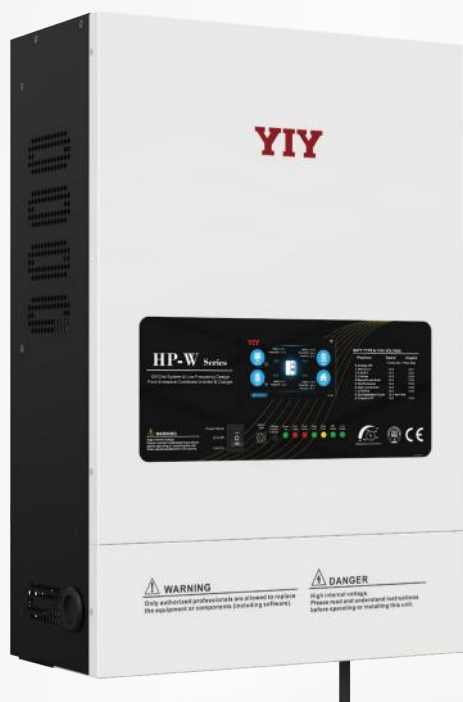
| HP Series Low Frequency Inverter Charger                                     |                                   |                                                    |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------------|-------|-------------------------|-------|--------|--------|---------------------------------------------|-------------------------|--------|-----------------|--------|--------|--------|
| Inverter Output                                                              | Model                             | 1.0KW                                              | 1.5KW | 2.0KW                   | 3.0KW | 4.0KW  | 5.0KW  | 6.0KW                                       | 8.0KW                   | 10.0KW | 12.0KW          | 15.0KW | 18.0KW | 20.0KW |
|                                                                              | Continuous Output Power           | 1.0KW                                              | 1.5KW | 2.0KW                   | 3.0KW | 4.0KW  | 5.0KW  | 6.0KW                                       | 8.0KW                   | 10.0KW | 12.0KW          | 15.0KW | 18.0KW | 20.0KW |
|                                                                              | Surge Rating (20Secs)             | 3.0KW                                              | 4.5KW | 6.0KW                   | 9.0KW | 12.0KW | 15.0KW | 18.0KW                                      | 24.0KW                  | 30.0KW | 36.0KW          | 45.0KW | 54.0KW | 60.0KW |
|                                                                              | Output Waveform                   | Pure Sine Wave/Same As Input (Bypass Mode)         |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | Nominal Efficiency                | >88% (Peak)                                        |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | Line Mode Efficiency              | >95%                                               |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | Power Factor                      | 0.9-1.0                                            |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | Nominal Output Voltage rms        | 100-110-120Vac / 220-230-240Vac                    |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | Output Voltage Regulation         | ±10%RMS                                            |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | Output Frequency                  | 50Hz±0.3Hz / 60Hz±0.3Hz                            |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | Short Circuit Protection          | Yes (1 sec after fault)                            |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | Typical Transfer Time             | 10ms (Max)                                         |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | THD                               | < 3% (Rated battery level, rated full linear load) |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
| DC Input                                                                     | Nominal Input Voltage             | 12.0Vdc/24.0Vdc                                    |       | 12.0Vdc/24.0Vdc/48.0Vdc |       |        |        | 24.0Vdc/48.0Vdc                             | 24.0Vdc/48.0Vdc/96.0Vdc |        | 48.0Vdc/96.0Vdc |        |        |        |
|                                                                              | Min. Start Voltage                | 10.0Vdc / 10.5Vdc for 12Vdc Mode                   |       |                         |       |        |        | *2 for 24Vdc / *4 for 48Vdc / *8 for 96Vdc, |                         |        |                 |        |        |        |
|                                                                              | Low Battery Alarm                 | 10.5Vdc / 11.0Vdc for 12Vdc Mode                   |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | Low Batteiy Trip                  | 10.0Vdc / 10.5Vdc for 12Vdc Mode                   |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | High Voltage Alarm                | 16.0Vdc for 12Vdc Mode                             |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | Low Battery Voltage Recover       | 15.5Vdc for 12Vdc Mode                             |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | Idle Consumption-Search Mode      | < 25W when power saver on (Refer to table)         |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
| Charger                                                                      | Output Voltage                    | Depends on battery type (Refer to Table 2.5.2)     |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | Charger Breaker Rating            | 20A                                                | 20A   | 20A                     | 25A   | 32A    | 40A    | 40A                                         | 50A                     | 80A    | 80A             | 100A   |        |        |
|                                                                              | Max. Charge Power Rate            | 1/3 Rating Pover (Refer to Table 2.5.3)            |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | Battery Initial Voltage For Start | 10-15.7Vdc for 12Vdc Mode                          |       |                         |       |        |        | *2 for 24Vdc / 4 for 48Vdc / 8 for 96Vdc    |                         |        |                 |        |        |        |
|                                                                              | Over Charge Protection S.D.       | 15.7Vdc for 12Vdc Mode                             |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              | Selector                          | Switch Setting                                     |       | Description             |       |        |        | Fast Mode / VDC                             |                         |        | Float Mode/VDC  |        |        |        |
|                                                                              |                                   | 0                                                  |       | Charger Off             |       |        |        |                                             |                         |        |                 |        |        |        |
|                                                                              |                                   | 1                                                  |       | Gel USA                 |       |        |        | 14.0                                        |                         |        | 13.7            |        |        |        |
|                                                                              |                                   | 2                                                  |       | AGM 1                   |       |        |        | 14.1                                        |                         |        | 13.4            |        |        |        |
|                                                                              |                                   | 3                                                  |       | Lithium                 |       |        |        | 13.8                                        |                         |        | 13.6            |        |        |        |
|                                                                              |                                   | 4                                                  |       | Sealed Lead Acid        |       |        |        | 14.4                                        |                         |        | 13.6            |        |        |        |
|                                                                              |                                   | 5                                                  |       | Gel EURO                |       |        |        | 14.4                                        |                         |        | 13.8            |        |        |        |
|                                                                              |                                   | 6                                                  |       | Open Lead Acid          |       |        |        | 14.8                                        |                         |        | 13.8            |        |        |        |
|                                                                              |                                   | 7                                                  |       | LifePO4                 |       |        |        | 14.0                                        |                         |        | 13.8            |        |        |        |
|                                                                              |                                   | 8                                                  |       | De-sulphation           |       |        |        | 15.5 (4 Hours then off)                     |                         |        |                 |        |        |        |
| 9                                                                            |                                   | Classic LFP                                        |       |                         |       | 13.6   |        |                                             | 13.5                    |        |                 |        |        |        |
| For 12Vdc Mode Series(*2 for 24Vdc Mode/*4 for 48Vdc Mode/*8 for 96Vdc Mode) |                                   |                                                    |       |                         |       |        |        |                                             |                         |        |                 |        |        |        |

## HP Series Low Frequency Inverter Charger

|                           |                                       |                                                                                                       |        |        |        |               |        |        |               |        |        |               |        |         |
|---------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------|--------|--------|--------|---------------|--------|--------|---------------|--------|--------|---------------|--------|---------|
| BTS                       | Battery Temperature Sensor (Optional) | Yes ( Refer to the table) Variances in Charging Voltage & S.D Voltage Base on the Battery Temperature |        |        |        |               |        |        |               |        |        |               |        |         |
| Bypass & Protection       | Input Voltage Waveform                | Sine Wave (Grid or Generator)                                                                         |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Nominal Voltage                       | 100-110-120Vac / 220-230-240Vac                                                                       |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Max. Input AC Voltage                 | 150Vac for 120Vac LV Mode; 300Vac for 230Vac HV Mode                                                  |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Nominal Input Frequency               | 50Hz or 60Hz                                                                                          |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Low Frequency Trip                    | 47±0.3Hz for 50Hz,57±0.3Hz for 60Hz                                                                   |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | High Frequency Trip                   | 55±0.3Hz for 50Hz,65±0.3Hz for 60Hz                                                                   |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Overload Protection (SMPS Load)       | Circuit Breaker                                                                                       |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Output Short Circuit Protection       | Circuit Breaker                                                                                       |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | By Pass Breaker Rating                | 20A                                                                                                   | 20A    | 20A    | 25A    | 32A           | 40A    | 40A    | 50A           | 80A    | 80A    | 100A          |        |         |
|                           | Transfer Switch Rating                | 30Amp for UL&TUV                                                                                      |        |        |        | 40Amp for UL  |        |        | 80Amp for UL  |        |        | 100Amp for UL |        |         |
|                           | Bypass Without Battery Connected      | Yes (Optional)                                                                                        |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Max. Bypass Current                   | 30Amp                                                                                                 |        |        |        | 40Amp         |        |        | 80Amp         |        |        | 100Amp        |        |         |
| Mechanical Specifications | Mounting                              | Wall Mount                                                                                            |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Inverter Dimensions (H*W*D)           | 388*415*200mm                                                                                         |        |        |        | 488*415*200mm |        |        | 588*415*200mm |        |        | 706*415*213mm |        |         |
|                           | Inverter Weight (Solar Charger) KG    | 21+2.5                                                                                                | 22+2.5 | 23+2.5 | 27+2.5 | 38+2.5        | 48+2.5 | 49+2.5 | 60+2.5        | 66+2.5 | 70+2.5 | 85+2.5        | 95+2.5 | 100+2.5 |
|                           | Shipping Dimensions(H*W*D)            | 550*520*310mm                                                                                         |        |        |        | 650*520*310mm |        |        | 750*520*310mm |        |        | 850*520*350mm |        |         |
|                           | Shipping Weight (Solar Charger) KG    | 23+2.5                                                                                                | 24+2.5 | 25+2.5 | 29+2.5 | 40+2.5        | 50+2.5 | 51+2.5 | 62+2.5        | 68+2.5 | 72+2.5 | 87+2.5        | 97+2.5 | 102+2.5 |
|                           | Display                               | Status LED / Status LED+LCD                                                                           |        |        |        |               |        |        |               |        |        |               |        |         |
|                           | Standard Warranty                     | 1 Year                                                                                                |        |        |        |               |        |        |               |        |        |               |        |         |

# HP-W

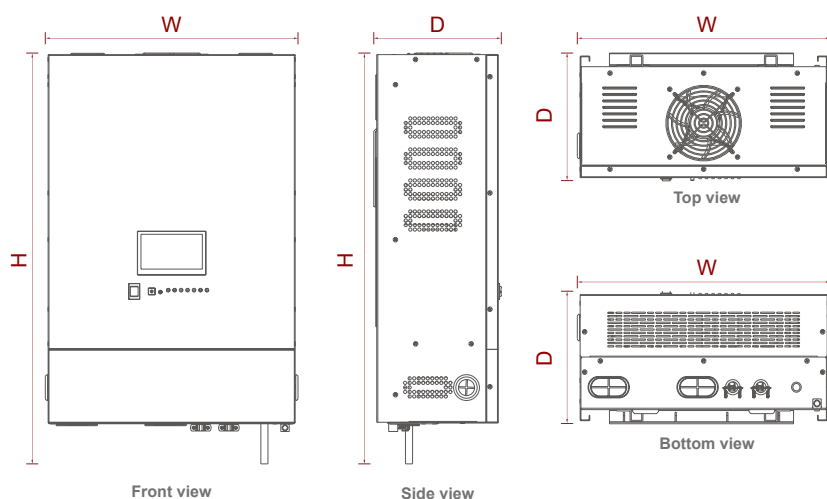
## Low Frequency Inverter Charger



### • Features

- Built-in EMS, achieves high efficient utilization of power energy between the grid and battery.
- IP20 protection.
- Ultra low THD, typically 7% under full linear load (battery low).
- Battery temperature sensing for increased charging precision.
- Powerful charge rate up to 120 Amp, selectable from 0%-100%.
- Auto Gen Start function for off grid system with generator as backup power.
- PF1.0, high efficiency, lower consumption.
- MPPT solar charger controller available.

### • Product Dimensions



| Model          | Size(W*D*H)(mm) |
|----------------|-----------------|
| HP-W 0.6-1.5KW | 240*140*460     |
| HP-W 2-6KW     | 383*190*570     |
| HP-W 8-12KW    | 403*190*709     |
| HP-W 15-18KW   | 553*215*849     |
| HP-W 20KW      | 553*240*849     |

## • Technical Parameter

| HP-W Series Low Frequency Inverter Charger |                                            |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
|--------------------------------------------|--------------------------------------------|-----|-----------------------|-----|-----|------|-----------------------------|------|---------|------|------|------|------|------|
| Model                                      | 0.6KW                                      | 1KW | 1.5KW                 | 2KW | 3KW | 4KW  | 5KW                         | 6KW  | 8KW     | 10KW | 12KW | 15KW | 18KW | 20KW |
| Inverter Output                            |                                            |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Continuous Output Power                    | 0.6KW                                      | 1KW | 1.5KW                 | 2KW | 3KW | 4KW  | 5KW                         | 6KW  | 8KW     | 10KW | 12KW | 15KW | 18KW | 20KW |
| Surge Rating (20Secs)                      | 1.8KW                                      | 3KW | 4.5KW                 | 6KW | 9KW | 12KW | 15KW                        | 18KW | 24KW    | 30KW | 36KW | 45KW | 54KW | 60KW |
| Output Waveform                            | Pure Sine Wave/Same As Input (Bypass Mode) |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Nominal Efficiency                         | >88% (Peak)                                |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Line Mode Efficiency                       | >95%                                       |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Power Factor                               | 0.9-1.0                                    |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Nominal Output Voltage rms                 | 100-110-120Vac / 220-230-240Vac            |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Output Voltage Regulation                  | ±10%RMS                                    |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Output Frequency                           | 50Hz±0.3Hz / 60Hz±0.3Hz                    |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Short Circuit Protection                   | Yes (1 sec after fault)                    |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Typical Transfer Time                      | 10ms (Max)                                 |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| THD                                        | < 10%                                      |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| DC Input                                   |                                            |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Nominal Input Voltage                      | 12.0Vdc / 24.0Vdc / 48.0Vdc                |     |                       |     |     |      | 24.0Vdc/48.0Vdc             |      | 48.0Vdc |      |      |      |      |      |
| Min. Start Voltage                         | 10.0Vdc / 10.5Vdc for 12Vdc Mode           |     |                       |     |     |      | *2 for 24Vdc / *4 for 48Vdc |      |         |      |      |      |      |      |
| Low Battery Alarm                          | 10.5Vdc / 11.0Vdc for 12Vdc Mode           |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Low Batteiy Trip                           | 10.0Vdc / 10.5Vdc for 12Vdc Mode           |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| High Voltage Alarm                         | 16.0Vdc for 12Vdc Mode                     |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Low Battery Voltage Recover                | 15.5Vdc for 12Vdc Mode                     |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Idle Consumption-Search Mode               | < 25W when power saver on (Refer to table) |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Charger                                    |                                            |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Output Voltage                             | Charger Off                                |     | /                     |     |     |      |                             |      |         |      |      |      |      |      |
|                                            | Gel USA                                    |     | 56.0                  |     |     |      |                             |      | 54.8    |      |      |      |      |      |
|                                            | AGM 1                                      |     | 56.4                  |     |     |      |                             |      | 53.6    |      |      |      |      |      |
|                                            | Lithium                                    |     | 55.2                  |     |     |      |                             |      | 54.4    |      |      |      |      |      |
|                                            | Sealed lead acid                           |     | 57.6                  |     |     |      |                             |      | 54.4    |      |      |      |      |      |
|                                            | Gel EURO                                   |     | 57.6                  |     |     |      |                             |      | 55.2    |      |      |      |      |      |
|                                            | Open lead acid                             |     | 59.2                  |     |     |      |                             |      | 55.2    |      |      |      |      |      |
|                                            | LifePO4                                    |     | 56.0                  |     |     |      |                             |      | 55.2    |      |      |      |      |      |
|                                            | De sulphation                              |     | 62 (4 Hours then Off) |     |     |      |                             |      |         |      |      |      |      |      |
|                                            | Class LFP                                  |     | 54.4                  |     |     |      |                             |      | 54.0    |      |      |      |      |      |
| Charger Breaker Rating                     | 10A                                        | 20A | 20A                   | 20A | 25A | 32A  | 40A                         | 40A  | 50A     | 80A  | 80A  | 100A |      |      |
| Max. Charge Power Rate                     | 1/3 Rating Pover                           |     |                       |     |     |      |                             |      |         |      |      |      |      |      |
| Battery Initial Voltage For Start          | 10-15.7Vdc for 12Vdc Mode                  |     |                       |     |     |      | *2 for 24Vdc / 4 for 48Vdc  |      |         |      |      |      |      |      |
| Over Charge Protection S.D.                | 15.7Vdc for 12Vdc Mode                     |     |                       |     |     |      |                             |      |         |      |      |      |      |      |

## • Technical Parameter

| HP-W Series Low Frequency Inverter Charger |                                                                                                          |     |       |     |             |              |     |     |              |      |      |               |      |              |
|--------------------------------------------|----------------------------------------------------------------------------------------------------------|-----|-------|-----|-------------|--------------|-----|-----|--------------|------|------|---------------|------|--------------|
| Model                                      | 0.6KW                                                                                                    | 1KW | 1.5KW | 2KW | 3KW         | 4KW          | 5KW | 6KW | 8KW          | 10KW | 12KW | 15KW          | 18KW | 20KW         |
| BTS                                        |                                                                                                          |     |       |     |             |              |     |     |              |      |      |               |      |              |
| Battery Temperature Sensor(Optional)       | Yes(Refer to the table )<br>Variances in Charging Voltage & S.D Voltage Base on the Battery Temperature. |     |       |     |             |              |     |     |              |      |      |               |      |              |
| Bypass & Protection                        |                                                                                                          |     |       |     |             |              |     |     |              |      |      |               |      |              |
| Input Voltage Waveform                     | Sine wave (Grid or Generator)                                                                            |     |       |     |             |              |     |     |              |      |      |               |      |              |
| Nominal Voltage                            | 100-110-120Vac / 220-230-240Vac                                                                          |     |       |     |             |              |     |     |              |      |      |               |      |              |
| Max Input AC Voltage                       | 150VAC For 120Vac LV Mode;300VAC For 230Vac HV Mode                                                      |     |       |     |             |              |     |     |              |      |      |               |      |              |
| Nominal Input Frequency                    | 50Hz or 60Hz                                                                                             |     |       |     |             |              |     |     |              |      |      |               |      |              |
| Low Freq Trip                              | 47±0.3Hz for 50Hz, 57±0.3Hz for 60Hz                                                                     |     |       |     |             |              |     |     |              |      |      |               |      |              |
| High Freq Trip                             | 55±0.3Hz for 50Hz, 65±0.3Hz for 60Hz                                                                     |     |       |     |             |              |     |     |              |      |      |               |      |              |
| Overloadprotection (SMPS load)             | Circuit Breaker                                                                                          |     |       |     |             |              |     |     |              |      |      |               |      |              |
| Output Short circuit protection            | Circuit Breaker                                                                                          |     |       |     |             |              |     |     |              |      |      |               |      |              |
| Bypass breaker rating                      | 10A                                                                                                      | 20A | 20A   | 20A | 25A         | 32A          | 40A | 40A | 50A          | 80A  | 80A  | 100A          |      |              |
| Transfer switch rating                     | 30Amp for UL & TUV                                                                                       |     |       |     |             | 40Amp for UL |     |     | 80Amp for UL |      |      | 100Amp for UL |      |              |
| Bypass without battery connected           | Yes (Optional)                                                                                           |     |       |     |             |              |     |     |              |      |      |               |      |              |
| Max bypass current                         | 30Amp                                                                                                    |     |       |     |             | 40Amp        |     |     | 80Amp        |      |      | 100Amp        |      |              |
| Mechanical Specifications                  |                                                                                                          |     |       |     |             |              |     |     |              |      |      |               |      |              |
| Mounting                                   | Wall Mount                                                                                               |     |       |     |             |              |     |     |              |      |      |               |      |              |
| Inverter Dimensions (W*D*H)(mm)            | 240*140*460                                                                                              |     |       |     | 383*190*570 |              |     |     | 403*190*709  |      |      | 553*215*849   |      | 553*240*849  |
| Shipping Dimensions (W*D*H)(mm)            | 325*225*575                                                                                              |     |       |     | 485*265*670 |              |     |     | 530*368*909  |      |      | 680*393*1049  |      | 680*418*1049 |
| Display                                    | Status LEDs / Status LEDs+LCD                                                                            |     |       |     |             |              |     |     |              |      |      |               |      |              |
| Standard Warranty                          | 1 Year                                                                                                   |     |       |     |             |              |     |     |              |      |      |               |      |              |

# TP

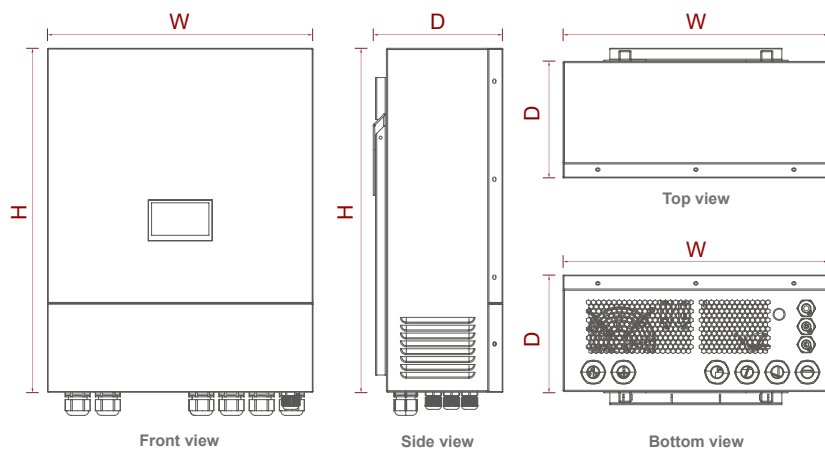
## Low Frequency Inverter Charger



### • Features

- 3K/6K: 120V single phase 60Hz.
- 3K/6K/12K: 230V single phase 50Hz.
- Built-in EMS.
- MODBUS/RS485/CAN communication.
- 60A~240A AC charging current.
- Grid-battery hybrid power supply.
- IP54.
- Max. efficiency: 92%.

### • Product Dimensions



| Model    | Size(W*D*H)(mm) |
|----------|-----------------|
| TP 3-6KW | 440*195*570     |
| TP 12KW  | 605*220*750     |

## • Technical Parameter

| TP Series Low Frequency Inverter Charger |                          |                                                                                                                                            |        |        |        |               |
|------------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|---------------|
| Model                                    |                          | 3048                                                                                                                                       | 3048E  | 6048   | 6048E  | 12048E        |
| Parameter Configuration                  |                          |                                                                                                                                            |        |        |        |               |
| Inverter Mode                            | Battery Rated Voltage    | 48V                                                                                                                                        |        |        |        |               |
|                                          | Battery Voltage Range    | 40-58V                                                                                                                                     |        |        |        |               |
|                                          | Rated Output Power       | 3000W                                                                                                                                      | 3000W  | 6000W  | 6000W  | 12000W        |
|                                          | Inverter Mode Efficiency | 92%(Peak)                                                                                                                                  |        |        |        |               |
|                                          | Rated Output Voltage     | 120Vac                                                                                                                                     | 230Vac | 120Vac | 230Vac | 230Vac        |
|                                          | Rated Output Frequency   | 50/60Hz                                                                                                                                    |        |        |        |               |
|                                          | Overload Capacity        | (110%<load<125%) ±10%: Protection in 15 minutes;<br>(125%<load<150%) ±10%: Post-60s protection;<br>( load>150%) ±10%: Post-20s protection. |        |        |        |               |
| Mains Mode                               | Charging Voltage Range   | 52-59Vdc                                                                                                                                   |        |        |        |               |
|                                          | Max. Charging Current    | 60A                                                                                                                                        | 60A    | 120A   | 120A   | 240A          |
|                                          | Utility Input Voltage    | 120Vac                                                                                                                                     | 230Vac | 120Vac | 230Vac | 230Vac        |
|                                          | Input Voltage Range      | 80/90-140Vac, 140/184-254Vac                                                                                                               |        |        |        |               |
|                                          | AC Rated Frequency       | 50/60Hz                                                                                                                                    |        |        |        |               |
|                                          | Frequency Range          | 47-55, 57-65/40-70Hz                                                                                                                       |        |        |        |               |
| System Parameter                         |                          |                                                                                                                                            |        |        |        |               |
| System Parameter                         | Cooling Method           | Forced air cooling                                                                                                                         |        |        |        |               |
|                                          | Noise Level              | ≤75dB                                                                                                                                      |        |        |        |               |
|                                          | Temperature Range        | -20℃ ~ 40℃                                                                                                                                 |        |        |        |               |
|                                          | Protection Level         | IP54                                                                                                                                       |        |        |        |               |
|                                          | Humidity Range           | 0-95%(Non-condensing)                                                                                                                      |        |        |        |               |
|                                          | Dimensions(W*D*H)        | 440*195*570mm                                                                                                                              |        |        |        | 605*220*750mm |
| Other                                    |                          |                                                                                                                                            |        |        |        |               |
| Other                                    | Max. Efficiency          | 92%                                                                                                                                        |        |        |        |               |
|                                          | Wiring Method            | Single phase                                                                                                                               |        |        |        |               |
|                                          | Isolation Type           | Built-in transformer isolation                                                                                                             |        |        |        |               |
|                                          | Protection Functions     | AC Over/Under Voltage, Over-Temperature, Frequency Anomaly, Over-Current, Fan Fault, Battery Over/Under Voltage, Battery Over-Temperature  |        |        |        |               |
|                                          | Display                  | LCD+APP                                                                                                                                    |        |        |        |               |
|                                          | Communication Interface  | RS485(MPPT), CAN(BAT)                                                                                                                      |        |        |        |               |
|                                          | Communication Settings   | Adjustable parameters can be configured via the LCD screen, PC-based software, or mobile APP                                               |        |        |        |               |
|                                          | Hybrid Power Supply      | In utility mode, the battery can supply 95% of the load's energy demand                                                                    |        |        |        |               |

# TPP

## Three Phase Low Frequency Inverter Charger



Wall-mounted:6-18KW

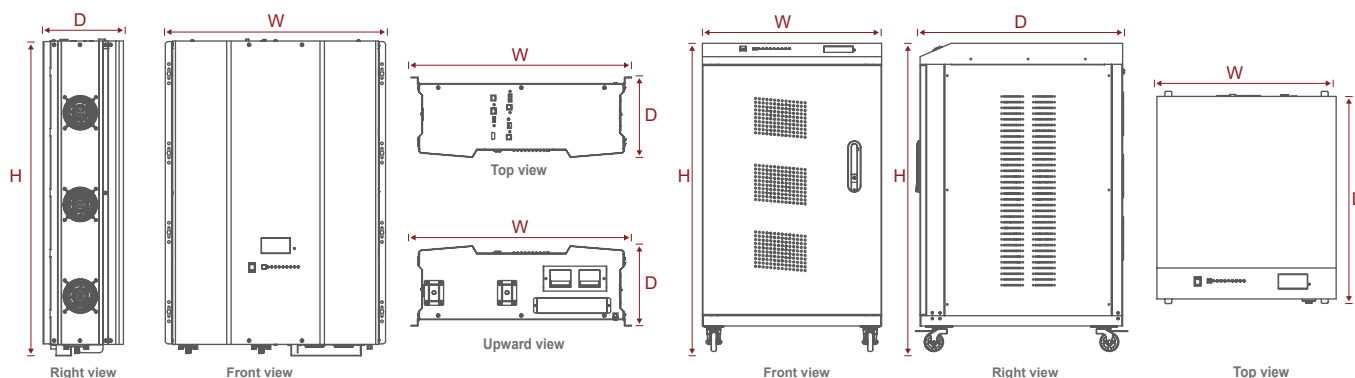


Cabinet type:24-45KW

### • Features

- High output capacity upto 45KW.
- Unbalance Load Acceptable Idle Consumption Search Mode, less than 100 W when Power Saver On.
- Powerful charge rate max charge current up to 450A (150A\*3).
- Intelligent communication port RS 232, RS 485, CAN port.
- Advanced MPPT solar charger controller Available.
- Remote control optional (LED or LCD remote).
- Connection mode: 3-phase 4-wire/3-phase 3-wire.
- DC Voltage: 48VDC.
- Remote Control Selectable (RJ11 port/RJ45 port).
- Ultra Low THD, less than 3% under full linear load (battery low).
- 13Vdc battery Recover Point, Dedicated for Renewable Energy Systems.
- BTS Selectable.

### • Product Dimensions



| Model           | TPP 6~18KW (Wall-mounted) | TPP 24~36KW (Cabinet type) | TPP 45KW (Cabinet type) |
|-----------------|---------------------------|----------------------------|-------------------------|
| Size(W*D*H)(mm) | 583*213*803               | 513*650*835                | 513*768*880             |

## • Technical Parameter

| TPP Series Three Phase Low Frequency Inverter Charger |                                    |                                                                                   |            |            |            |            |        |        |         |         |
|-------------------------------------------------------|------------------------------------|-----------------------------------------------------------------------------------|------------|------------|------------|------------|--------|--------|---------|---------|
| Inverter Output                                       | Model                              | 6KW                                                                               | 9KW        | 12KW       | 15KW       | 18KW       | 24KW   | 30KW   | 36KW    | 45KW    |
|                                                       | Continuous Output Power            | 6000W                                                                             | 9000W      | 12000W     | 15000W     | 18000W     | 24000W | 30000W | 36000W  | 45000W  |
|                                                       | Surge Rating(20s)                  | 18000W                                                                            | 27000W     | 36000W     | 45000W     | 54000W     | 72000W | 90000W | 108000W | 135000W |
|                                                       | Capable of Starting Electric Motor | 6HP                                                                               | 9HP        | 12HP       | 15HP       | 18HP       | 24HP   | 30HP   | 36HP    | 45HP    |
|                                                       | Unbalance Load Acceptable          | 100%                                                                              |            |            |            |            |        |        |         |         |
|                                                       | DC Input Voltage                   | 48.0Vdc                                                                           |            |            |            |            |        |        |         |         |
|                                                       | Output Waveform                    | Pure Sine wave/Same as input (Bypass mode)                                        |            |            |            |            |        |        |         |         |
|                                                       | Nominal Efficiency                 | 89% (Peak)                                                                        |            |            |            |            |        |        |         |         |
|                                                       | Line Mode Efficiency               | >95%                                                                              |            |            |            |            |        |        |         |         |
|                                                       | Power Factor                       | 0.9-1.0                                                                           |            |            |            |            |        |        |         |         |
|                                                       | Connection mode                    | 3-phase 4-wire system+Gnd                                                         |            |            |            |            |        |        |         |         |
|                                                       | Output voltage rating              | 3AC/N 400V/207V                                                                   |            |            |            |            |        |        |         |         |
|                                                       | Output phase voltage               | 120/230VAC                                                                        | 120/230VAC | 120/230VAC | 120/230VAC | 120/230VAC | 230VAC | 230VAC | 230VAC  | 230VAC  |
|                                                       | Output Voltage Regulation          | ±10% RMS                                                                          |            |            |            |            |        |        |         |         |
|                                                       | Output Frequency                   | 50/60HZ ± 0.3Hz                                                                   |            |            |            |            |        |        |         |         |
|                                                       | Short Circuit Protection           | Yes, Current Limit Function (Fault after 60ms)                                    |            |            |            |            |        |        |         |         |
|                                                       | Typical transfer Time              | Typical 6-8ms,10ms (Max)                                                          |            |            |            |            |        |        |         |         |
|                                                       | THD                                | <3%Linear Loac                                                                    |            |            |            |            |        |        |         |         |
| DC Input                                              | Nominal Input Voltage              | 48.0Vdc                                                                           |            |            |            |            |        |        |         |         |
|                                                       | Minimum Start Voltage              | 42.0Vdc / 44.0Vdc                                                                 |            |            |            |            |        |        |         |         |
|                                                       | Low Battery Alarm                  | 42.0Vdc / 44.0Vdc                                                                 |            |            |            |            |        |        |         |         |
|                                                       | Low Battery Trip                   | 40.0Vdc / 42.0Vdc                                                                 |            |            |            |            |        |        |         |         |
|                                                       | High Voltage Alarm & Fault         | 64.0Vdc                                                                           |            |            |            |            |        |        |         |         |
|                                                       | High DC Input Recovery             | 62.0Vdc                                                                           |            |            |            |            |        |        |         |         |
|                                                       | Low Battery Voltage Recover        | 52.0Vdc                                                                           |            |            |            |            |        |        |         |         |
|                                                       | Idle Consumption-Search Mode       | < 100 W when Power Saver On                                                       |            |            |            |            |        |        |         |         |
| Charge                                                | Input Voltage Range                | Narrow: 96-132VAC / 184~253VAC;Wide:70-135VAC / 140-270VAC                        |            |            |            |            |        |        |         |         |
|                                                       | Input Frequency Range              | Narrow: 47-55±0.3Hz for 50Hz,57-65±0.3Hz for 60Hz Wide: 40-70±0.3Hz for 50Hz/60Hz |            |            |            |            |        |        |         |         |
|                                                       | Output Voltage                     | Same as input                                                                     |            |            |            |            |        |        |         |         |
|                                                       | Charger Breaker Rating(230Vac)     | 10A                                                                               | 20A        | 20A        | 30A        | 30A        | 40A    | 50A    | 60A     | 80A     |
|                                                       | Charger Breaker Rating(120Vac)     | 20A                                                                               | 30A        | 40A        | 50A        | 60A        |        |        |         |         |

# HES 5-11.4kW HS LV

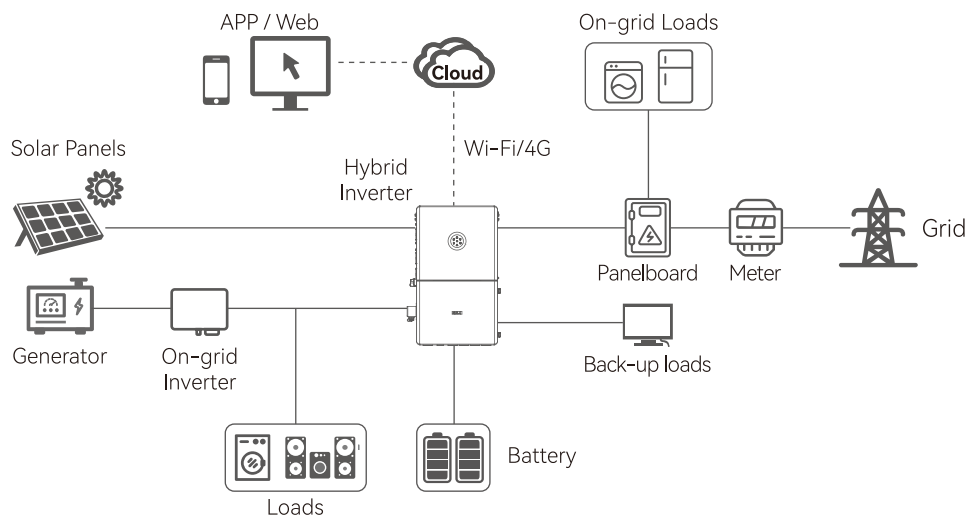
## Split Phase Hybrid Inverter



### • Features

- Up to 11.4kW output integrated 200A transfer Relay, support whole home backup power.
- IP65 protection, support indoor and outdoor installation.
- Lithium battery and lead acid battery compatibility.
- Maximum 4 MPPTs.
- With UPS function switch time  $\leq 20\text{ms}$ .
- Compatibility with generator input for backups.

### • System Diagram



## • Technical Parameter

| Model                                | HES-5K-HS LV                                                                                                | HES-7.6K-HS LV | HES-9.6K-HS LV | HES-11.4K-HS LV |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------|----------------|----------------|-----------------|
| PV String Input                      |                                                                                                             |                |                |                 |
| Max PV Array Power [Wp]@STC          | 7500                                                                                                        | 11400          | 14400          | 17100           |
| Max. DC Voltage [V]                  | 600                                                                                                         |                |                |                 |
| MPPT Voltage Range [V]               | 90~550                                                                                                      |                |                |                 |
| Nominal DC Voltage [V]               | 380                                                                                                         |                |                |                 |
| Start Voltage/Min Input Voltage [V]  | 100                                                                                                         |                |                |                 |
| Max.DC Input Current [A]             | 16/16/16                                                                                                    |                | 16/16/16/16    |                 |
| No. of Strings per MPPT              | 1/1/1                                                                                                       |                | 1/1/1/1        |                 |
| No. of MPPT                          | 3                                                                                                           |                | 4              |                 |
| Battery Input                        |                                                                                                             |                |                |                 |
| Battery Type                         | Lead-acid or LiFePO4                                                                                        |                |                |                 |
| Battery Voltage Range[V]             | 40~60                                                                                                       |                |                |                 |
| Max.Charging/Discharging Current [A] | 160                                                                                                         |                | 240            |                 |
| AC Output [On-grid]                  |                                                                                                             |                |                |                 |
| Rated AC Power [W]@208Vac            | 4330                                                                                                        | 6580           | 8320           | 9880            |
| Rated AC Power [W]@240Vac            | 5000                                                                                                        | 7600           | 9600           | 11400           |
| Max. Apparnet Power [VA]             | 5500                                                                                                        | 3860           | 10560          | 12540           |
| Rated AC Current [A]@208Vac          | 20.8                                                                                                        | 31.7           | 40             | 47.5            |
| Max. AC Current [A]@240Vac           | 22.9                                                                                                        | 34.8           | 44             | 52.3            |
| Rated AC Voltage/Range               | L1/L2/N/PE, 208V/240V; 183V~229V/211V~264V                                                                  |                |                |                 |
| Rated Output Frequency [Hz]          | 60/54-65                                                                                                    |                |                |                 |
| Power Factor [cosφ]                  | 0.8 leading~0.8 lagging                                                                                     |                |                |                 |
| Total Harmonic Distortion [THDi]     | <3%                                                                                                         |                |                |                 |
| AC Output [Back-up Mode]             |                                                                                                             |                |                |                 |
| Rated Output Power [W]@240Vac        | 5000                                                                                                        | 7600           | 9600           | 11400           |
| Over Load Capacity [W, 10s]          | 11400                                                                                                       |                | 17100          |                 |
| Rated Output Voltage [V]             | 120/240                                                                                                     |                |                |                 |
| Rated Output Frequency [Hz]          | 60                                                                                                          |                |                |                 |
| Output THDV(@ Liner Load)            | <3%                                                                                                         |                |                |                 |
| Efficiency                           |                                                                                                             |                |                |                 |
| Max. Efficiency                      | 97.6%                                                                                                       |                |                |                 |
| CEC Efficiency [@600Vdc]             | 97%                                                                                                         |                |                |                 |
| Bat-AC Max. Efficiency               | 93%                                                                                                         |                |                |                 |
| Protection                           |                                                                                                             |                |                |                 |
| Over Voltage Protection              | Intergrated                                                                                                 |                |                |                 |
| AC Surge Protection                  | Type II                                                                                                     |                |                |                 |
| DC Surge Protection                  | Type II                                                                                                     |                |                |                 |
| Over Heat Protection                 | Intergrated                                                                                                 |                |                |                 |
| Islanding Pretction                  | Intergrated                                                                                                 |                |                |                 |
| AFP                                  | Intergrated                                                                                                 |                |                |                 |
| RSD                                  | Intergrated                                                                                                 |                |                |                 |
| Interface                            |                                                                                                             |                |                |                 |
| Display                              | LED+APP (Bluetooth)                                                                                         |                |                |                 |
| Communication Por                    | RS232 +RS485(RJ45 )+DRM(RJ45)                                                                               |                |                |                 |
| Communication                        | Wi-Fi/Ethernet/4G                                                                                           |                |                |                 |
| Load Monitor                         | 24 hours                                                                                                    |                |                |                 |
| General Data                         |                                                                                                             |                |                |                 |
| Isolation Type                       | HF                                                                                                          |                |                |                 |
| Standby Power Consumption [W]        | <10                                                                                                         |                |                |                 |
| Operating Temperature Range          | -40 C +60 C (>45 C power derating)                                                                          |                |                |                 |
| Cooling Method                       | Smart Fan Cooling                                                                                           |                |                |                 |
| Ambient Humidity                     | 0%~100% no-condensing                                                                                       |                |                |                 |
| Altitude                             | 4000m(>3000m power derating)                                                                                |                |                |                 |
| Noise [dBA]                          | <40                                                                                                         |                |                |                 |
| Ingress Protection                   | NEMA 4x (IP65)                                                                                              |                |                |                 |
| Mounting                             | Wall Mounting                                                                                               |                |                |                 |
| Dimensions [H*W*D][inch]             | 30.7*18.5*10.2                                                                                              |                |                |                 |
| Weight [kg]                          | 50 (110 lbs)                                                                                                |                |                |                 |
| Warranty [years]                     | 10                                                                                                          |                |                |                 |
| Safety/EMC Standard                  | UL 1741 CRD, IEEE 1547, UL 1699B, UL 1998, UL 9540, CAN/CSA C22.2.107.1-1, FCC, Part 15 Class B, SRD-UL1741 |                |                |                 |

# HES 5-12kW HS

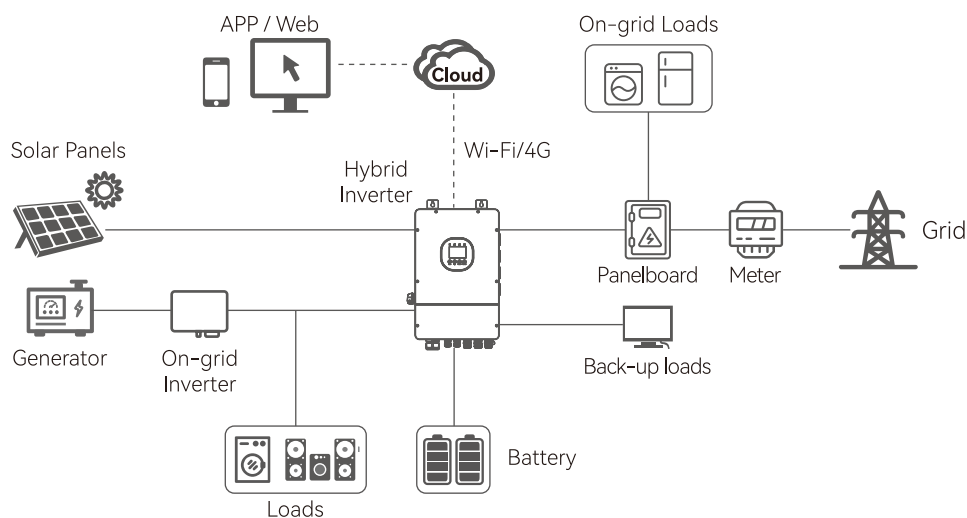
## Hybrid Inverter



### • Features

- Colorful touch LCD, IP65 protection degree.
- Max. 20A PV input current; DC/AC access oversizing up to 200%.
- Max 240A fast charge/discharge current.
- Heat-resistant (>50°C with derating).
- Support whole home backup function with up to 63 A bypass.
- Max. 4 pcs parallel for on-grid and off-grid operation, Support multiple batteries parallel.
- Integrated Intelligent energy management with generator, heat pump, solar system and smart load.
- Ultralight for easy installation and space-saving.

### • System Diagram

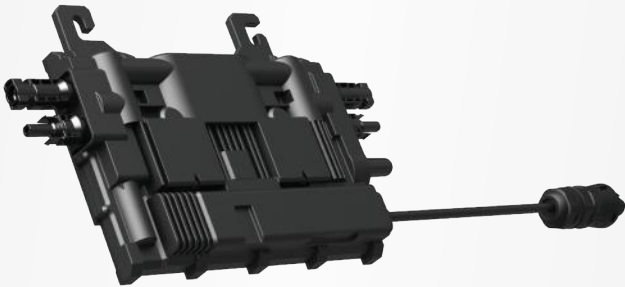


## • Technical Parameter

| Model                                     | HES-5K-HS                                                                                                                    | HES-6K-HS | HES-7.6K-HS | HES-8K-HS | HES-10K-HS | HES-12K-HS |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------|-------------|-----------|------------|------------|
| <b>DC Input</b>                           |                                                                                                                              |           |             |           |            |            |
| Max. PV Access Power [Wp]@STC             | 10000                                                                                                                        | 12000     | 15200       | 16000     | 20000      | 24000      |
| Max PV Input Power[W]                     | 8000                                                                                                                         | 9600      | 12200       | 12800     | 16000      | 19200      |
| Max. DC Voltage [V]                       | 500                                                                                                                          |           |             |           |            |            |
| MPPT Voltage Range [V]                    | 90~480                                                                                                                       |           |             |           |            |            |
| Rated DC Voltage [V]                      | 360                                                                                                                          |           |             |           |            |            |
| Start Voltage [V]                         | 80                                                                                                                           |           |             |           |            |            |
| Max.DC Input Current [A]                  | 20/20                                                                                                                        |           |             | 40/40     |            |            |
| Max.DC Short Circuit Current [A]          | 25/25                                                                                                                        |           |             | 50/50     |            |            |
| No. of MPPT                               | 2                                                                                                                            |           |             |           |            |            |
| <b>Battery Parameters</b>                 |                                                                                                                              |           |             |           |            |            |
| Battery Type                              | Lead-acid or LiFePO4                                                                                                         |           |             |           |            |            |
| Battery Voltage Range[V]                  | 40~60                                                                                                                        |           |             |           |            |            |
| Max.Charging/Discharging Current [A]      | 100                                                                                                                          | 120       | 190         |           | 240        |            |
| <b>AC Output [On-grid]</b>                |                                                                                                                              |           |             |           |            |            |
| Rated AC Power [W]                        | 5000                                                                                                                         | 6000      | 7600        | 8000      | 10000      | 12000      |
| Max.Apparent Power [VA]                   | 5500                                                                                                                         | 6600      | 8360        | 8800      | 10000      | 12000      |
| Rated Output Current [A]@230Vac           | 21.8                                                                                                                         | 30        | 33          | 34.8      | 43.5       | 52.2       |
| Max. Output Current [A]                   | 25                                                                                                                           | 30        | 38          | 40        | 45.5       | 54.6       |
| Rated AC Voltage/Range [V]                | L+N+PE, 220,230,240/180~280                                                                                                  |           |             |           |            |            |
| Rated Output Frequency/Range [Hz]         | 50,60/45~55,55~65                                                                                                            |           |             |           |            |            |
| Power Factor [cos φ]                      | 0.8 leading~0.8 lagging                                                                                                      |           |             |           |            |            |
| Total Harmonic Distortion [THDI]          | <3%                                                                                                                          |           |             |           |            |            |
| <b>AC Input [On-grid]</b>                 |                                                                                                                              |           |             |           |            |            |
| Rated AC Voltage/Range [V]                | L+N+PE, 220,230,240/180~280                                                                                                  |           |             |           |            |            |
| Rated Input Frequency [Hz]                | 50,60                                                                                                                        |           |             |           |            |            |
| Bypass Current [A]@230Vac                 | 63                                                                                                                           |           |             |           |            |            |
| <b>AC Output [Back-up]</b>                |                                                                                                                              |           |             |           |            |            |
| Max.Output Power [VA]                     | 5000                                                                                                                         | 6000      | 7600        | 8000      | 10000      | 12000      |
| Max. Output Current [A]                   | 25                                                                                                                           | 30        | 38          | 40        | 45.5       | 54.6       |
| Peak Output Apparent Power [VA]           | 2 Times , 10S                                                                                                                |           |             |           |            |            |
| Rated AC Voltage/Range [V]                | L+N+PE, 220,230,240/180~280                                                                                                  |           |             |           |            |            |
| Rated Output Frequency/Range [Hz]         | 50,60/45~55,55~65                                                                                                            |           |             |           |            |            |
| Output THDv (@ Linear Load)               | <3%                                                                                                                          |           |             |           |            |            |
| <b>Efficiency</b>                         |                                                                                                                              |           |             |           |            |            |
| Max. Efficiency                           | 97.6%                                                                                                                        |           |             |           |            |            |
| Euro Efficiency                           | 97.0%                                                                                                                        |           |             |           |            |            |
| <b>Protection</b>                         |                                                                                                                              |           |             |           |            |            |
| Battery Input Reverse Polarity Protection | Integrated                                                                                                                   |           |             |           |            |            |
| Over load Protection                      | Integrated                                                                                                                   |           |             |           |            |            |
| AC Short Circuit Current Protection       | Integrated                                                                                                                   |           |             |           |            |            |
| DC Surge Protection/AC Surge Protection   | Integrated                                                                                                                   |           |             |           |            |            |
| Anti-islanding Protection                 | Integrated                                                                                                                   |           |             |           |            |            |
| AFCI Protection/RSD Protection            | Optional                                                                                                                     |           |             |           |            |            |
| <b>Interface</b>                          |                                                                                                                              |           |             |           |            |            |
| PV Connection                             | MC4                                                                                                                          |           |             |           |            |            |
| AC Connection                             | Terminal Block                                                                                                               |           |             |           |            |            |
| Battery Connection                        | Terminal Block                                                                                                               |           |             |           |            |            |
| Display                                   | LCD+LED+APP                                                                                                                  |           |             |           |            |            |
| Communication                             | Wi-Fi/Ethernet/4G(Optional)                                                                                                  |           |             |           |            |            |
| <b>General Parameters</b>                 |                                                                                                                              |           |             |           |            |            |
| Topology                                  | Non-isolated                                                                                                                 |           |             |           |            |            |
| Operating Temperature Range               | -40℃ to +60℃ (50℃ to 60℃ with derating)                                                                                      |           |             |           |            |            |
| Cooling Method                            | Intelligent Fan cooling                                                                                                      |           |             |           |            |            |
| Ambient Humidity                          | 0-100% Non-condensing                                                                                                        |           |             |           |            |            |
| Altitude                                  | 4000m (>3000m Power Derating)                                                                                                |           |             |           |            |            |
| Noise [dBA]                               | <50                                                                                                                          |           |             |           |            |            |
| Ingress Protection                        | IP65                                                                                                                         |           |             |           |            |            |
| Dimensions [H*W*D] [mm]                   | 590*380*241                                                                                                                  |           |             |           |            |            |
| Weight [kg]                               | 29.0                                                                                                                         |           |             |           |            |            |
| Warranty [Year]                           | 5/10                                                                                                                         |           |             |           |            |            |
| Standard                                  | EN 62109-1/2, EN 61000-6-1/2/3/4, IEC 62116, IEC 61727, IEC62183, PEA&MEA, NBR 16149, NBR 16150, PORTARIA N° 140,515, NRS097 |           |             |           |            |            |

# EON-MI800S-2B

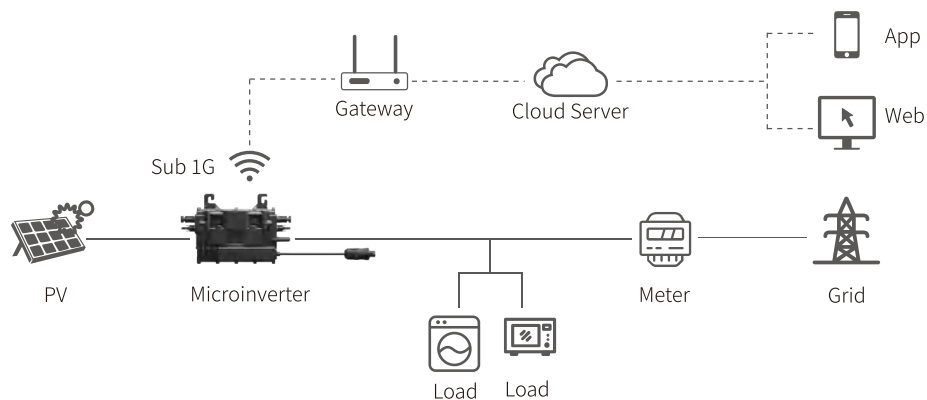
## PV Microinverter



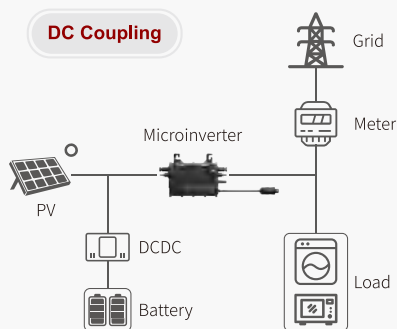
### • Features

- More compact, lighter, ultra-high power density.
- Mass products comply with EU EMI standards.
- Safer with rapid shutdown compliance.
- Plug & play, enabling faster, safer and flexible installation.
- High reliability with longer standard warranty.
- 2-in-1 design with 2 independent MPPTs and monitoring.

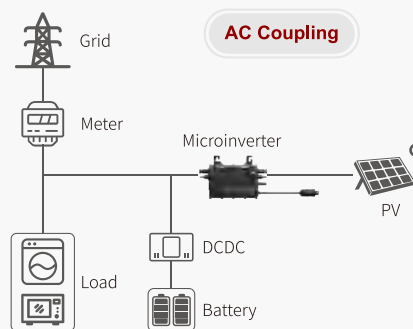
### • System Diagram



#### DC Coupling



#### AC Coupling



**• Technical Parameter**

| <b>EON-MI800S-2B Series PV Microinverter</b>        |                                                                                                                             |
|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <b>Product Model</b>                                | <b>EON-MI800S-2B</b>                                                                                                        |
| <b>Input Data (DC)</b>                              |                                                                                                                             |
| Commonly used module power                          | 320~590W                                                                                                                    |
| Maximum input voltage                               | Min.16, Typ.42, Max.60V                                                                                                     |
| Start-up voltage                                    | Min.18, Typ.19, Max.20V                                                                                                     |
| MPPT voltage range                                  | Min.16, Typ.42, Max.60V                                                                                                     |
| Maximum input current                               | 2 x 16A                                                                                                                     |
| Maximum input short circuit current                 | 2 x 22A                                                                                                                     |
| Number of input                                     | 2                                                                                                                           |
| Number of MPP                                       | 2                                                                                                                           |
| <b>Output Data (AC)</b>                             |                                                                                                                             |
| Rated output power                                  | 800VA                                                                                                                       |
| Output current range                                | 0~3.48A                                                                                                                     |
| Output voltage                                      | Min.183V, Typ. 230V, Max. 264V                                                                                              |
| AC frequency range                                  | 47.5~51.5Hz                                                                                                                 |
| Total harmonic distortion                           | Typ. < 3%, Max. < 5%                                                                                                        |
| Power factor (adjustable)                           | > 0.99 default 0.9 leading...0.9 lagging                                                                                    |
| <b>Efficiency</b>                                   |                                                                                                                             |
| Peak efficiency                                     | 96.5%                                                                                                                       |
| MPPT efficiency                                     | 99.8%                                                                                                                       |
| Night Consumption                                   | <50mW                                                                                                                       |
| <b>Environmental and Mechanical Characteristics</b> |                                                                                                                             |
| Operation temperature                               | -40 to +65°C                                                                                                                |
| Ingress protection                                  | IP67                                                                                                                        |
| Cooling                                             | Natural convection                                                                                                          |
| Nominal Dimensions                                  | 228×150×31.3mm                                                                                                              |
| Nominal weight                                      | 2.4kg                                                                                                                       |
| <b>Features</b>                                     |                                                                                                                             |
| Communication                                       | Sub-1G                                                                                                                      |
| Compliance                                          | IEC/EN 62109-1/-2, EN 50549, VDE-AR-N 4105:2018<br>UTE C15-712-1:2013 / VFR 2019/ DIN VDE 0126-1-1:2013-08 CEI 0-21:2022-03 |
| Electromagnetic compatibility                       | IEC/EN 61000-3-2/-3, IEC/EN 61000-6-1/-2/-3/-4                                                                              |

# SPI Series



## On Grid Inverter Single Phase



- Monitor system performance in real-time via smartphone app or web portal using our advanced monitoring platform.
- Quick and easy single person installation Fault codes warning view on LCD display Built-in limiter optional.
- Comply with international quality standards tested by TUV,BV,Dekra etc.
- IP65 ingress protection 10+years R&D accumulation and support.

### • Product Features



Big LCD display



Power export limit



Wifi/GPRS/Lan communication optional



Compact and easy to install

## • Technical Parameter

| Model No                                                  | SPI1000TL                                        | SPI1500TL | SPI2200TL | SPI3000TL | SPI3600TL       | SPI4400TL | SPI5000TL | SPI6000TL |
|-----------------------------------------------------------|--------------------------------------------------|-----------|-----------|-----------|-----------------|-----------|-----------|-----------|
| DC Side / Input Parameters                                |                                                  |           |           |           |                 |           |           |           |
| AC Input                                                  |                                                  |           |           |           |                 |           |           |           |
| Max DC power (W)                                          | 1500                                             | 2250      | 3300      | 4500      | 5400            | 6600      | 7500      | 7500      |
| Max DC voltage (Vdc)                                      | 550                                              |           |           |           |                 |           |           |           |
| Min System start/Shut down voltage (Vdc)                  | 65/70                                            | 75/100    |           |           |                 |           |           |           |
| MPPT voltage range(Vdc)                                   | 70~500                                           | 100~500   |           |           |                 |           |           |           |
| Max. input current (A)                                    | 18A                                              |           |           |           |                 | 22A       |           |           |
| Max.input short circuit per MPPT                          | 25A                                              |           |           |           |                 | 30A       |           |           |
| Number of MPP trackers                                    | 1                                                |           |           |           |                 |           |           |           |
| Strings per MPP tracker                                   | 1                                                |           |           |           |                 |           |           |           |
| AC Side / Output Parameters                               |                                                  |           |           |           |                 |           |           |           |
| Nominal output power (W)                                  | 1000                                             | 1500      | 2200      | 3000      | 3600            | 4000      | 5000      | 6000      |
| Maximum output power (W)                                  | 1100                                             | 1650      | 2420      | 3300      | 3960            | 4400      | 5500      | 6600      |
| Nominal output voltage/range (V)                          | 208,220,230,240/180~270                          |           |           |           |                 |           |           |           |
| AC grid frequency/range (Hz)                              | 50Hz,60Hz(auto-selection) / 44Hz-55Hz; 54Hz-65Hz |           |           |           |                 |           |           |           |
| Maximum output current (A)                                | 6                                                | 8         | 12        | 16        | 16              | 21        | 25        | 26        |
| AC connection (with PE)                                   | Single phase                                     |           |           |           |                 |           |           |           |
| Current distortion(THDi)                                  | <1.5%                                            |           |           |           | <2.5%           |           |           |           |
| Power factor                                              | ~1%(Adjustable from 0.8 leading to 0.8 lagging)  |           |           |           |                 |           |           |           |
| Efficiency                                                |                                                  |           |           |           |                 |           |           |           |
| Maximum conversion efficiency                             | 97.30%                                           | 97.30%    | 97.40%    | 97.50%    | 97.80%          | 97.80%    | 97.50%    | 97.60%    |
| European efficiency                                       | 97.00%                                           | 97.00%    | 97.10%    | 97.20%    | 97.30%          | 97.30%    | 97.20%    | 97.30%    |
| MPPT efficiency                                           | 99.90%                                           |           |           |           |                 |           |           |           |
| Safety and Protection                                     |                                                  |           |           |           |                 |           |           |           |
| DC reverse-polarity protection                            | yes                                              |           |           |           |                 |           |           |           |
| Anti-islanding / Overvoltage protection                   | yes                                              |           |           |           |                 |           |           |           |
| Short circuit protection                                  | yes                                              |           |           |           |                 |           |           |           |
| Leakage current protection                                | yes                                              |           |           |           |                 |           |           |           |
| Grid monitoring / Ground fault monitoring                 | yes                                              |           |           |           |                 |           |           |           |
| DC/AC side SPD(thermally protected)                       | yes                                              |           |           |           |                 |           |           |           |
| General Parameters                                        |                                                  |           |           |           |                 |           |           |           |
| Dimension (L*W*H)(mm)                                     | 370*274*104                                      |           |           |           | 370*318.5*105.5 |           |           |           |
| Weight (kg)                                               | 7                                                |           |           |           | 8               |           |           |           |
| Embedded DC Switch                                        | Optional                                         |           |           |           |                 |           |           |           |
| Night power consumption (w)                               | < 0.2                                            |           |           |           |                 |           |           |           |
| Isolation type                                            | Transformerless                                  |           |           |           |                 |           |           |           |
| Protection degree                                         | IP65 according to IEC60529                       |           |           |           |                 |           |           |           |
| Operation temperature (°C)                                | -25 ~ +60                                        |           |           |           |                 |           |           |           |
| Cooling concept                                           | Smart Cooling                                    |           |           |           |                 |           |           |           |
| Operating Altitude (m)                                    | <2000m without power derating                    |           |           |           |                 |           |           |           |
| Acoustic noise level (dB)                                 | < 25                                             |           |           |           |                 |           |           |           |
| Display                                                   | Graphic LCD                                      |           |           |           |                 |           |           |           |
| Communication Interface                                   | Standard WIFI; RS485 (optional)                  |           |           |           |                 |           |           |           |
| Warranty                                                  | Standard 5 years; 7/10 years optional            |           |           |           |                 |           |           |           |
| Certificates and Approvals                                |                                                  |           |           |           |                 |           |           |           |
| CE-(EMC/LVD) : EN(IEC) 61000-1/-2/-3/; EN(IEC) 62109-1/-2 |                                                  |           |           |           |                 |           |           |           |

# TPI Series



## On Grid Inverter Three Phase



- Monitor system performance in real-time via smartphone app or web portal using our advanced monitoring platform.
- Quick and easy single person installation Fault codes warning view on LCD display Built-in limiter optional.
- Comply with international quality standards tested by TUV,BV,Dekra etc.
- IP65 ingress protection 10+years R&D accumulation and support.

### • Product Features



Big LCD display



Power export limit



Wifi/GPRS/Lan communication optional



Compact and easy to install

**• Technical Parameter**

| Model No                                               | TPI4KTL                                          | TPI5KTL | TPI6KTL | TPI8KTL | TPI10KTL | TPI12KTL | TPI15KTL |
|--------------------------------------------------------|--------------------------------------------------|---------|---------|---------|----------|----------|----------|
| Input (DC)                                             |                                                  |         |         |         |          |          |          |
| Max DC power (W)                                       | 5500W                                            | 6500W   | 7500W   | 9500W   | 11500W   | 18000W   | 22500W   |
| Max DC voltage (Vdc)                                   | 1000Vd.c.                                        |         |         |         |          |          |          |
| Min working voltage (Vdc)                              | 160Vd.c                                          |         |         |         |          |          |          |
| MPPT voltage range(Vdc)                                | 160...850Vdc                                     |         |         |         |          |          |          |
| Max input current / per string (A)                     | 18A/18A                                          |         |         |         |          |          |          |
| Max.input short circuit per MPPT                       | 25A/25A                                          |         |         |         |          |          |          |
| Number of MPP trackers                                 | 2                                                |         |         |         |          |          |          |
| Strings per MPP tracker                                | 1                                                |         |         |         |          |          |          |
| Output (AC)                                            |                                                  |         |         |         |          |          |          |
| AC nominal power (W)                                   | 4000                                             | 5000    | 6000    | 8000    | 10000    | 12000    | 15000    |
| Max AC apparent power (VA)                             | 5000                                             | 6000    | 7000    | 8800    | 11000    | 13200    | 16500    |
| Max output current (A)                                 | 8                                                | 10      | 12      | 15      | 17       | 20       | 23       |
| Nominal AC output                                      | 50Hz,60Hz(auto-selection) / 44Hz-55Hz; 54Hz-65Hz |         |         |         |          |          |          |
| AC output range                                        | 45/55 Hz;280~490 Vac (Adj)                       |         |         |         |          |          |          |
| Power factor                                           | 0.8leading...0.8laging                           |         |         |         |          |          |          |
| Harmonics                                              | <5%                                              |         |         |         |          |          |          |
| Grid type                                              | 3 W/N/PE                                         |         |         |         |          |          |          |
| Efficiency                                             |                                                  |         |         |         |          |          |          |
| Max efficiency                                         | 98.0%                                            | 98.2%   | 98.2%   | 98.3%   | 98.4%    | 98.4%    | 98.4%    |
| Euro efficiency                                        | 97.5%                                            | 97.7%   | 97.7%   | 97.8%   | 97.9%    | 97.9%    | 98.0%    |
| MPPT efficiency                                        | 99.9%                                            |         |         |         |          |          |          |
| Safety and Protection                                  |                                                  |         |         |         |          |          |          |
| DC reverse-polarity protection                         | yes                                              |         |         |         |          |          |          |
| DC breaker                                             | yes                                              |         |         |         |          |          |          |
| DC/AC SPD                                              | yes                                              |         |         |         |          |          |          |
| Leakage curent protection                              | yes                                              |         |         |         |          |          |          |
| Insulation Impedance Detection                         | yes                                              |         |         |         |          |          |          |
| Residual Current protection                            | yes                                              |         |         |         |          |          |          |
| General Parameters                                     |                                                  |         |         |         |          |          |          |
| Dimension (W/H/D)(mm)                                  | 480*476*157                                      |         |         |         |          |          |          |
| Weight (kg)                                            | 16                                               |         |         |         |          |          |          |
| Operating temperature range °C                         | -25~+60                                          |         |         |         |          |          |          |
| Degree of protection                                   | IP65                                             |         |         |         |          |          |          |
| Cooling concept                                        | Smart Cooling                                    |         |         |         |          |          |          |
| Topology                                               | Transformerless                                  |         |         |         |          |          |          |
| Display                                                | LCD                                              |         |         |         |          |          |          |
| Humidity                                               | 0-95%,no condensation                            |         |         |         |          |          |          |
| Communication                                          | RS485/iFi/GPRS                                   |         |         |         |          |          |          |
| Warranty                                               | Standard 5 years, 7/10 years optional            |         |         |         |          |          |          |
| Certificates and Approvals                             |                                                  |         |         |         |          |          |          |
| CQC, VDE-AR-N4105,VDE0126-1-1,AS4777,IEC61727,IEC62116 |                                                  |         |         |         |          |          |          |

# TPI Series



## On Grid Inverter Three Phase



- Monitor system performance in real-time via smartphone app or web portal using our advanced monitoring platform.
- Quick and easy single person installation Fault codes warning view on LCD display Built-in limiter optional.
- Comply with international quality standards tested by TUV,BV,Dekra etc.
- IP65 ingress protection 10+years R&D accumulation and support.

### • Product Features



Big LCD display



Power export limit



Wifi/GPRS/Lan communication optional



Compact and easy to install

**• Technical Parameter**

| Model No                                               | TPI17KTL                              | TPI20KTL | TPI25KTL |
|--------------------------------------------------------|---------------------------------------|----------|----------|
| Input (DC)                                             |                                       |          |          |
| Max DC power (W)                                       | 25500W                                | 30000W   | 30000W   |
| Max DC voltage (Vdc)                                   | 1000Vd.c.                             |          |          |
| Min working voltage (Vdc)                              | 250Vd.c                               |          |          |
| MPPT voltage range(Vdc)                                | 200...850Vdc                          |          |          |
| Max input current / per string (A)                     | 26A/26A                               |          | 36A/26A  |
| Max.input short circuit per MPPT                       | 34A/34A                               |          | 46A/34A  |
| Number of MPP trackers                                 | 2                                     |          |          |
| Strings per MPP tracker                                | 2                                     |          |          |
| Output (AC)                                            |                                       |          |          |
| AC nominal power (W)                                   | 17000                                 | 20000    | 25000    |
| Max AC apparent power (VA)                             | 18700                                 | 22000    | 27500    |
| Max output current (A)                                 | 25                                    | 30       | 41.6     |
| Nominal AC output                                      | 50/60 Hz;400 Vac                      |          |          |
| AC output range                                        | 45/55 Hz;280~490 Vac (Adj)            |          |          |
| Power factor                                           | 0.8leading...0.8laging                |          |          |
| Harmonics                                              | <1.5%                                 |          |          |
| Grid type                                              | 3 W/N/PE                              |          |          |
| Efficiency                                             |                                       |          |          |
| Max efficiency                                         | 98.5%                                 | 98.5%    | 98.5%    |
| Euro efficiency                                        | 98.1%                                 | 98.1%    | 98.2%    |
| MPPT efficiency                                        | 99.9%                                 | 99.9%    | 99.9%    |
| Safety and Protection                                  |                                       |          |          |
| DC reverse-polarity protection                         | yes                                   |          |          |
| DC breaker                                             | yes                                   |          |          |
| DC/AC SPD                                              | yes                                   |          |          |
| Leakage curent protection                              | yes                                   |          |          |
| Insulation Impedance Detection                         | yes                                   |          |          |
| Residual Current protection                            | yes                                   |          |          |
| General Parameters                                     |                                       |          |          |
| Dimension (W/H/D)(mm)                                  | 520*510*160                           |          |          |
| Weight (kg)                                            | 23                                    |          |          |
| Operating temperature range °C                         | -25~+60                               |          |          |
| Degree of protection                                   | IP65                                  |          |          |
| Cooling concept                                        | Smart Cooling                         |          |          |
| Topology                                               | Transformerless                       |          |          |
| Display                                                | LCD                                   |          |          |
| Humidity                                               | 0-95%,no condensation                 |          |          |
| Communication                                          | RS485/iFi/GPRS                        |          |          |
| Warranty                                               | Standard 5 years, 7/10 years optional |          |          |
| Certificates and Approvals                             |                                       |          |          |
| CQC, VDE-AR-N4105,VDE0126-1-1,AS4777,IEC61727,IEC62116 |                                       |          |          |

# OPS

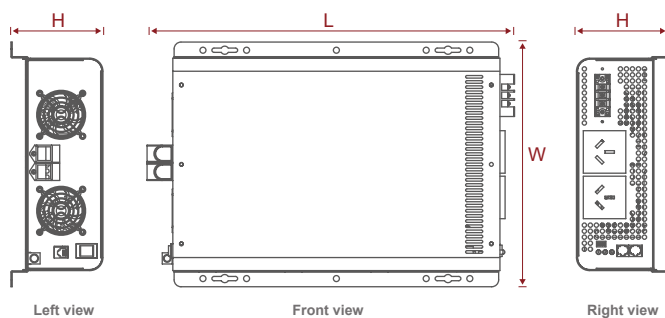
## Solar Inverter



### • Features

- Adopts new pure sine-wave inverter topology (THD < 3%) .
- High power density with superior reliability and performance.
- Capable of driving highly reactive & capacitive loads at start moment.
- Advanced DSP control, Input/output isolated design.
- LED indicators display.
- Low power "Power Saving Mode" to conserve energy.
- Surge Rating: 2\* Prated.

### • Product Dimensions



| Model         | Size(L*W*H)(mm) |
|---------------|-----------------|
| OPS 0.6KW~1KW | 270*160*70      |
| OPS 1.5KW~2KW | 355*190*95      |
| OPS 3KW~4KW   | 411*285*122     |

**• Technical Parameter**

| OPS Series Solar Inverter |                                   |                                                                                                            |                       |                          |                          |                       |                       |                          |                          |                          |                          |  |
|---------------------------|-----------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------|--------------------------|-----------------------|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|--|
| Input                     | Item                              | 0612                                                                                                       | 1012                  | —                        | 2012                     | 0612E                 | 1012E                 | —                        | 2012E                    | 3012E                    | —                        |  |
|                           |                                   | 0624                                                                                                       | 1024                  | 1524                     | 2024                     | 0624E                 | 1024E                 | 1524E                    | 2024E                    | 3024E                    | 4024E                    |  |
|                           | Nominal Voltage                   | 12Vdc(*2 for 24Vdc)                                                                                        |                       |                          |                          |                       |                       |                          |                          |                          |                          |  |
|                           | Operating Range                   | 10Vdc-15.1Vdc                                                                                              |                       |                          |                          |                       |                       |                          |                          |                          |                          |  |
|                           | Startup Voltage                   | 11.75Vdc-14.8Vdc                                                                                           |                       |                          |                          |                       |                       |                          |                          |                          |                          |  |
|                           |                                   | Load Level                                                                                                 |                       |                          | 0~29%                    |                       | 30~69%                |                          | 70~100%                  |                          |                          |  |
|                           | Battery Alarm Level               | Battery-low Level                                                                                          |                       |                          | 11.3Vdc                  |                       | 11.2Vdc               |                          | 11.0Vdc                  |                          |                          |  |
|                           |                                   | Battery-high Level                                                                                         |                       |                          | 14.1Vdc                  |                       | 14.0Vdc               |                          | 13.8Vdc                  |                          |                          |  |
|                           | Battery Shut-down Level           | Battery-under Level                                                                                        |                       |                          | 10.3Vdc                  |                       | 10.2Vdc               |                          | 10.0Vdc                  |                          |                          |  |
|                           |                                   | Battery-over Level                                                                                         |                       |                          | 15.1Vdc                  |                       | 15.0Vdc               |                          | 14.8Vdc                  |                          |                          |  |
|                           | Battery Recovery Level            | Battery-under Recovery                                                                                     |                       |                          | 12.5Vdc                  |                       |                       |                          |                          |                          |                          |  |
|                           |                                   | Battery-over Recovery                                                                                      |                       |                          | 14.0Vdc                  |                       |                       |                          |                          |                          |                          |  |
| Output                    | Output Waveform                   | Pure Sine Wave                                                                                             |                       |                          |                          |                       |                       |                          |                          |                          |                          |  |
|                           | Output Power                      | 600W                                                                                                       | 1000W                 | 1500W                    | 2000W                    | 600W                  | 1000W                 | 1500W                    | 2000W                    | 3000W                    | 4000W                    |  |
|                           | Surge Rating                      | 2*Prated                                                                                                   |                       |                          |                          |                       |                       |                          |                          |                          |                          |  |
|                           | Nominal Output Voltage            | 110/115/120Vac                                                                                             |                       |                          |                          | 220/230/240Vac        |                       |                          |                          |                          |                          |  |
|                           | Output Voltage Regulation         | ± 5%(When input voltage higher than battery-low level)                                                     |                       |                          |                          |                       |                       |                          |                          |                          |                          |  |
|                           | Output Frequency                  | 50/60Hz±0.1%                                                                                               |                       |                          |                          |                       |                       |                          |                          |                          |                          |  |
|                           | Output Current @ 220/230/240      | —                                                                                                          |                       |                          |                          | 2.73A / 2.61A / 2.50A | 4.55A / 4.35A / 4.17A | 6.81A / 6.52A / 6.25A    | 9.10A / 8.70A / 8.34A    | 13.65A / 13.05A / 12.51A | 18.18A / 17.39A / 16.67A |  |
|                           | Output Current @110/115/120       | 5.45A / 5.22A / 5A                                                                                         | 9.09A / 8.70A / 8.33A | 13.63A / 13.04A / 12.50A | 18.18A / 17.39A / 16.67A | —                     |                       |                          |                          |                          |                          |  |
|                           | Crest Factor                      | 3:1                                                                                                        |                       |                          |                          |                       |                       |                          |                          |                          |                          |  |
|                           | THD                               | <3%, linear load; <5%, non-linear load(At nominal Input voltage)<br><15%(At minimum cut-off (10Vdc) level) |                       |                          |                          |                       |                       |                          |                          |                          |                          |  |
|                           | Peak Output Current @ 220/230/240 | —                                                                                                          |                       |                          |                          | 5.46A / 5.22A / 5.00A | 9.10A / 8.70A / 8.34A | 13.62A / 13.04A / 12.50A | 18.20A / 17.40A / 16.68A | 273A / 26.1A / 25.02A    | 36.36A / 34.78A / 33.34A |  |
|                           | Peak Output Current @110/115/120  | 10.92A / 10.44A / 10A                                                                                      | 182A / 17.4A / 16.68A | 27.3A / 26.1A / 25A      | 36.36A / 34.78A / 33.34A | —                     |                       |                          |                          |                          |                          |  |
|                           | Efficiency                        | >88% (Typical), 90% (Peak)                                                                                 |                       |                          |                          |                       |                       |                          |                          |                          |                          |  |
|                           | No load Current Draw              | <15W                                                                                                       | <15W                  | <15W                     | <25W                     | <20W                  | <20W                  | <20W                     | <30W                     | <35W                     | <40W                     |  |
|                           | Stand-by Current Draw             | <6W                                                                                                        | <6W                   | <6W                      | <10W                     | <6W                   | <6W                   | <6W                      | <10W                     | <10W                     | <10W                     |  |
| Over Load Protection      | Refer to Sec.3.9 and Sec.3.10     |                                                                                                            |                       |                          |                          |                       |                       |                          |                          |                          |                          |  |

| OPS Series Solar Inverter |                            |                                                                                                                                                                                   |            |       |             |            |            |       |             |             |       |
|---------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------|-------------|------------|------------|-------|-------------|-------------|-------|
| Environmental             | Noise                      | <50 dB                                                                                                                                                                            |            |       |             |            |            |       |             |             |       |
|                           | Operating Temperature      | Operation temperature: -20 ~ 70°C, -5 ~ 40 °C with full performance                                                                                                               |            |       |             |            |            |       |             |             |       |
|                           | Storage Temperature        | -30~70°C                                                                                                                                                                          |            |       |             |            |            |       |             |             |       |
|                           | Operating Humidity         | 90% RH (No condense)                                                                                                                                                              |            |       |             |            |            |       |             |             |       |
|                           | Operating Attitude         | 1500m                                                                                                                                                                             |            |       |             |            |            |       |             |             |       |
| Mechanical                | Dimension L*W*H(mm)        | 270*160*70                                                                                                                                                                        | 355*190*95 |       | 411*285*107 | 270*160*70 | 355*190*95 |       | 411*285*107 | 411*285*122 |       |
|                           | Weight (KG)                | 2.5KG                                                                                                                                                                             | 4.0KG      | 4.5KG | 8.0KG       | 2.5KG      | 4.0KG      | 4.5KG | 8.0KG       | 8.8KG       | 8.8KG |
|                           | Force Cooling              | Load and Temperature Controlled Cooling Fan                                                                                                                                       |            |       |             |            |            |       |             |             |       |
| Control                   | Protection                 | Overload, Short Circuits, Reverse Polarity, Over/ Under Input Voltage, Over Temperature, High Output Voltage, Low Output Voltage, Unit Internal Failure, Unit In-Parallel Failure |            |       |             |            |            |       |             |             |       |
|                           | Startup Time               | < 5s                                                                                                                                                                              |            |       |             |            |            |       |             |             |       |
|                           | Power Saving Recovery Time | 5s                                                                                                                                                                                |            |       |             |            |            |       |             |             |       |
| Human Interface           | LED Indicator              | 3-LED installed                                                                                                                                                                   |            |       |             |            |            |       |             |             |       |
|                           | Audible Alarm              | Buzzer                                                                                                                                                                            |            |       |             |            |            |       |             |             |       |
|                           | Communication Interface    | RS232                                                                                                                                                                             |            |       |             |            |            |       |             |             |       |



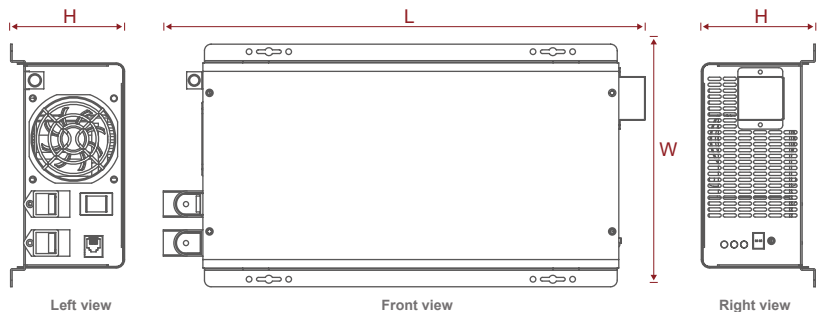
## Battery Charger



### • Features

- Three stage timer-based charging algorithm.
- Most suitable for fast battery charging.
- Operate with wider input voltage range.
- With PFC function.
- High efficiency.
- Highly reliable MOSEFET base design.
- Smart fan control.

### • Product Dimensions



| Model     | Size(L*W*H)(mm) |
|-----------|-----------------|
| CSB 500W  | 259*134*72.5    |
| CSB 1000W | 259*134*72.5    |
| CSB 2000W | 315*170*83.5    |

**• Technical Parameter**

| CSB Series Battery Charger      |                                                                      |              |                                                                                       |           |              |          |
|---------------------------------|----------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------|-----------|--------------|----------|
| Model No.                       | 05H / 05L                                                            |              | 10H / 10L                                                                             |           | 20H / 20L    |          |
| Rated Power (W)                 | 500W                                                                 |              | 1000W                                                                                 |           | 2000W        |          |
| Battery Voltage                 | 12/24Vdc                                                             | 36/48Vdc     | 12/24Vdc                                                                              | 36/48Vdc  | 12/24Vdc     | 36/48Vdc |
| Output Current (A)              | 37.5/18.75A                                                          | 12.5/9.375A  | 75/37.5A                                                                              | 25/18.75A | 150/75A      | 50/37.5A |
| Display                         | LED Display / LCD Display (optional)                                 |              |                                                                                       |           |              |          |
| AC Input Voltage Range (Vac)    | H : 90-286Vac / L :70-145Vac                                         |              |                                                                                       |           |              |          |
| Input Type                      | AC Plug Cord                                                         | AC Plug Cord | CSB20L: 3 PIN Terminal Block                                                          |           |              |          |
|                                 |                                                                      |              | CSB20H : AC Plug Cord                                                                 |           |              |          |
| AC Input Frequency              |                                                                      |              | 40-70Hz                                                                               |           |              |          |
| Charging Efficiency             |                                                                      |              | ≥80%                                                                                  |           |              |          |
| Operation Temperature           |                                                                      |              | 0°C ~ 50°C                                                                            |           |              |          |
| Storage Temperature             |                                                                      |              | 0°C ~ 105°C                                                                           |           |              |          |
| Protection                      |                                                                      |              | Over/Under Voltage, Over Temperature, Over Current                                    |           |              |          |
| Cooling                         |                                                                      |              | Smart fan control (Control by heat sink temperature, charging current)                |           |              |          |
| Chasis Material                 |                                                                      |              | Iron Chasis / Alu. Chasis                                                             |           |              |          |
| Optional Accessories / Function |                                                                      |              | BTS; Reverse Polarity Protection; RS232 Comm Module; Battery 0V Charging; Rain Shield |           |              |          |
| Product Size (mm)<br>(L*W*H)    | 259*134*72.5                                                         |              | 259*134*72.5                                                                          |           | 315*170*83.5 |          |
| Packing Size (mm)<br>(L*W*H)    | 346*191*122                                                          |              | 346*191*122                                                                           |           | 415*245*152  |          |
| Net Weight (KG)                 | 2.50                                                                 |              | 2.50                                                                                  |           | 3.50         |          |
| Gross Weight (KG)               | 2.77                                                                 |              | 2.77                                                                                  |           | 3.92         |          |
| Remark                          | H : Short for High Voltage 220Vac<br>L: Short for Low Voltage 110Vac |              |                                                                                       |           |              |          |

**Charge Voltage Select :**

| Battery Type |     |     | 12Vdc Model |       | 24Vdc Model |       | 36Vdc Model |       | 48Vdc Model |       |
|--------------|-----|-----|-------------|-------|-------------|-------|-------------|-------|-------------|-------|
| DIP Switch   | SW1 | SW2 | Bulk        | Float | Bulk        | Float | Bulk        | Float | Bulk        | Float |
|              | 0   | 1   | 12.2        | 12    | 24.4        | 24    | 36.6        | 36    | 48.8        | 48    |
|              | 1   | 0   | 13.8        | 13.6  | 27.6        | 27.2  | 41.4        | 40.8  | 55.2        | 54.4  |
|              | 1   | 1   | 14.2        | 13.6  | 28.4        | 27.2  | 42.6        | 40.8  | 56.8        | 54.4  |
|              | 0   | 0   | 14.4        | 13.8  | 28.8        | 27.6  | 43.2        | 41.4  | 57.6        | 55.2  |

# LFP-M IP65

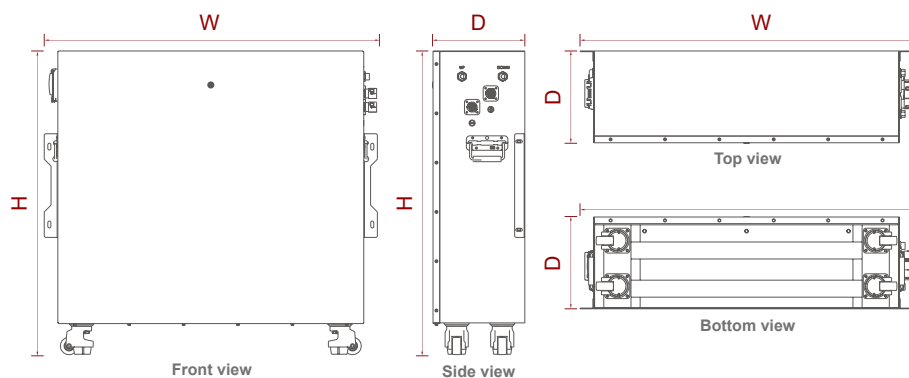
## LiFePO4 Battery Pack



### • Features

- Grade A LiFePO4 cells.
- IP65 Protection.
- 51.2Vdc voltage output suitable for home energy storage system, communication stations and other applications.
- Standard CAN & RS485 communication port, Master & Slave relationship.
- Compatible with other brand inverters' communication protocols.
- Parallel connection up to 9 PCS.

### • Product Dimensions



| Model        | Size(W*D*H)(mm) |
|--------------|-----------------|
| LFP-M48105H2 | 530*183*557     |
| LFP-M48210H  | 530*183*865     |
| LFP-M48280H  | 950*316.5*923.5 |
| LFP-M48314H  |                 |

### • Technical Parameter

| LFP-M IP65 Series LiFePO4 Battery Pack   |                                 |               |                            |             |
|------------------------------------------|---------------------------------|---------------|----------------------------|-------------|
| Specifications                           |                                 |               |                            |             |
| Model                                    | LFP-M48105H2                    | LFP-M48210H   | LFP-M48280H                | LFP-M48314H |
| Rated Voltage                            | 51.2V                           |               |                            |             |
| Rated Capacity                           | 105Ah                           | 210Ah         | 280Ah                      | 314Ah       |
| Rated Energy                             | 5.37KWH                         | 10.75KWH      | 14.33KWH                   | 16.07KWH    |
| Cell Configuration                       | 16S1P                           | 16S2P         | 16S1P                      |             |
| Battery Cell                             | 3.2V 105AH                      |               | 3.2V 280AH                 | 3.2V 314AH  |
| Cycles                                   | 6000@70%SOH,90%DOD (25°C )      |               | 8000@70%SOH,90%DOD (25°C ) |             |
| Standard Charge                          |                                 |               |                            |             |
| Operation temperature range @charging    | 0~60°C                          |               |                            |             |
| Rated charge voltage                     | 56V                             |               |                            |             |
| Over charge protection                   | 57.6V                           |               |                            |             |
| Allowed MAX charge current               | 100A                            | 100A          | 140A                       | 150A        |
| Peak charge current                      | 110A 3S                         | 110A 3S       | 160A 2S                    | 160A 3S     |
| Rated charge current                     | 50A                             | 100A          | 140A                       | 150A        |
| Recommended charge method                | CC-CV                           |               |                            |             |
| Standard Discharge                       |                                 |               |                            |             |
| Operation temperature range @discharging | -20~60°C                        |               |                            |             |
| Output Voltage Range                     | 48~57.6V                        |               |                            |             |
| Discharge Cut-off voltage                | 48V                             |               |                            |             |
| Allowed MAX discharge current            | 100A                            | 100A          | 140A                       | 150A        |
| Peak discharge current                   | 110A 3S                         | 110A 3S       | 160A 2S                    | 160A 3S     |
| Rated discharge current                  | 100A                            | 100A          | 140A                       | 150A        |
| Recommend discharge current              | 100A                            | 100A          | 140A                       | 150A        |
| Mechanical Characteristics               |                                 |               |                            |             |
| Dimension W*D*H                          | 530*183*557mm                   | 530*183*865mm | 950*316.5*923.5mm          |             |
| Weight(N.W)                              | 52KG                            | 94KG          | 130KG                      |             |
| Communication                            |                                 |               |                            |             |
| RS485                                    | PC control and monitor          |               |                            |             |
| CAN                                      | Inverter PC control and monitor |               |                            |             |
| Storage and Transportation Requirements  |                                 |               |                            |             |
| Storage Temperature                      | Less than 1 month               | -20~35°C      |                            |             |
|                                          | Less than 6 month               | -10~30°C      |                            |             |
| Storage Humidity                         | 45~75%RH                        |               |                            |             |
| SOC                                      | Storage                         | 60~75%SOC     |                            |             |
|                                          | Transport                       | 45~55%SOC     |                            |             |

# LFP-M IP21

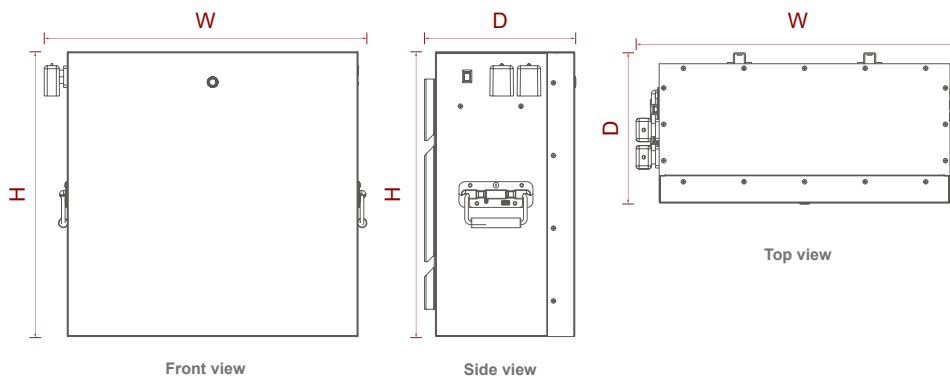
## LiFePO4 Battery Pack



### • Features

- Grade A LiFePO4 cells.
- IP21 Protection.
- 51.2Vdc/25.6Vdc voltage output suitable for home energy storage system, communication stations and other applications.
- Standard CAN & RS485 communication port, Master & Slave relationship.
- Compatible with other brand inverters' communication protocols.
- Parallel connection up to 9 PCS.

### • Product Dimensions



| Model        | Size(W*D*H)(mm) |
|--------------|-----------------|
| LFP-M48100H  | 460*420*171     |
| LFP-M48206H  | 480*470*248     |
| LFP-M48314H1 | 635*570*248     |
| LFP-M24314H1 | 375*430*263     |

**• Technical Parameter**

| LFP-M IP21 LiFePO4 Battery Pack             |                                 |                                |                                |                                |
|---------------------------------------------|---------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Specifications                              |                                 |                                |                                |                                |
| Model                                       | LFP-M48100H                     | LFP-M48206H                    | LFP-M48314H1                   | LFP-M24314H1                   |
| Rated Voltage                               | 51.2V                           |                                |                                | 25.6V                          |
| Rated Capacity                              | 100Ah                           | 206Ah                          | 314Ah                          | 314Ah                          |
| Rated Energy                                | 5.12KWH                         | 10.54KWH                       | 16.07KWH                       | 8.03KWH                        |
| Cell Configuration                          | 16S1P                           |                                |                                | 8S1P                           |
| Battery Cell                                | 3.2V 100AH                      | 3.2V 206Ah                     | 3.2V 314Ah                     | 3.2V 314AH                     |
| Cycles                                      | 3000@80%SOH,<br>90%DOD (25°C )  | 4000@80%SOH,<br>90%DOD (25°C ) | 8000@70%SOH,<br>90%DOD (25°C ) | 8000@70%SOH,<br>90%DOD (25°C ) |
| Standard Charge                             |                                 |                                |                                |                                |
| Operation temperature range<br>@charging    | 0~55°C                          |                                |                                |                                |
| Rated charge voltage                        | 56V                             |                                |                                | 28V                            |
| Over charge protection                      | 57.6V                           |                                |                                | 28.8V                          |
| Allowed MAX charge current                  | 100A                            | 150A                           |                                | 150A                           |
| Peak charge current                         | 110A 3S                         | 160A 3S                        |                                | 160A 3S                        |
| Rated charge current                        | 50A                             | 150A                           |                                | 150A                           |
| Recommended charge method                   | CC-CV                           |                                |                                |                                |
| Standard Discharge                          |                                 |                                |                                |                                |
| Operation temperature range<br>@discharging | -10~60°C                        |                                |                                |                                |
| Output Voltage Range                        | 48~57.6V                        |                                |                                | 24~28.8V                       |
| Discharge Cut-off voltage                   | 48V                             |                                |                                | 24V                            |
| Allowed MAX discharge current               | 100A                            | 150A                           |                                | 150A                           |
| Peak discharge current                      | 110A 3S                         | 160A 3S                        |                                | 160A 3S                        |
| Rated discharge current                     | 100A                            | 150A                           |                                | 150A                           |
| Recommend discharge current                 | 100A                            | 150A                           |                                | 150A                           |
| Mechanical Characteristics                  |                                 |                                |                                |                                |
| Dimension (W*D*H) (mm)                      | 460*420*171                     | 480*470*248                    | 635*570*248                    | 375*430*263                    |
| Weight(N.W)                                 | 52KG                            | 80KG                           | 130KG                          | 60KG                           |
| Communication                               |                                 |                                |                                |                                |
| RS485                                       | PC control and monitor          |                                |                                |                                |
| CAN                                         | Inverter PC control and monitor |                                |                                |                                |
| Storage and Transportation Requirements     |                                 |                                |                                |                                |
| Storage Temperature                         | Less than 1 month               | -20~35°C                       |                                |                                |
|                                             | Less than 6 month               | -10~30°C                       |                                |                                |
| Storage Humidity                            | 45~75%RH                        |                                |                                |                                |
| SOC                                         | Storage                         | 60~75%SOC                      |                                |                                |
|                                             | Transport                       | 45~55%SOC                      |                                |                                |

# LFP-M-R

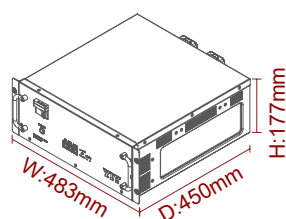
## Rack Type LiFePO4 Battery Pack



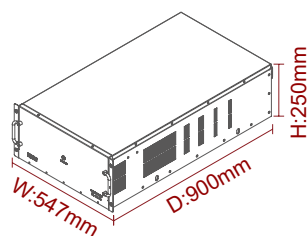
### • Features

- Up to 5 layers can be stacked ,unified convergence.
- IP21 Protection.
- 51.2Vdc 16.07KWH /14.33KWH /5.12KWH rated capacity.
- 51.2Vdc voltage output suitable for home energy storage system, small commercial scenarios and other applications.
- Standard CAN &RS485 communication port, can meet the requirement of several packages to connect in parallel, Master & Slave relationship, Monitor and other functions.Compatible with other brand inverters' communication protocols.

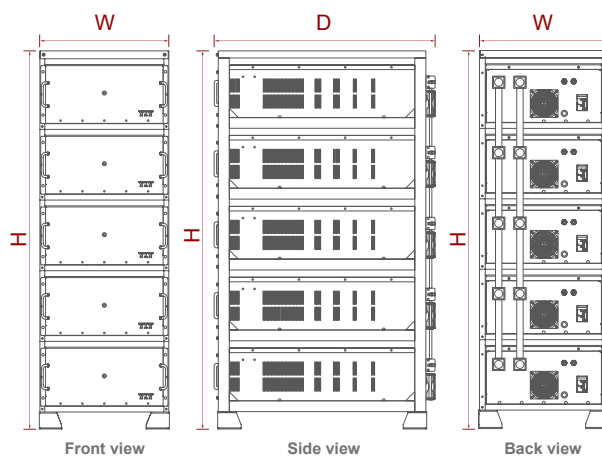
### • Product Dimensions



LFP-M48100R1



LFP-M48280R1



### 5-Layer Rack Size:

| Model        | Size(W*D*H)(mm) |
|--------------|-----------------|
| LFP-M48100R1 | 490*450*1286.5  |
| LFP-M48280R1 | 561*904*1636.5  |
| LFP-M48314R1 |                 |

**• Technical Parameter**

| LFP-M Rack type LiFePO4 Battery Pack     |                                 |                           |              |
|------------------------------------------|---------------------------------|---------------------------|--------------|
| Specifications                           |                                 |                           |              |
| Model                                    | LFP-M48100R1                    | LFP-M48280R1              | LFP-M48314R1 |
| Rated Voltage                            | 51.2V                           |                           |              |
| Rated Capacity                           | 100AH                           | 280Ah                     | 314Ah        |
| Rated Energy                             | 5.12KWH                         | 14.33KWH                  | 16.07KWH     |
| Cell Configuration                       | 16S1P                           |                           |              |
| Battery Cell                             | 3.2V 100AH                      | 3.2V 280AH                | 3.2V 314AH   |
| Cycles                                   | 6000@70%SOH,90%DOD (25℃ )       | 8000@70%SOH,90%DOD (25℃ ) |              |
| Standard Charge                          |                                 |                           |              |
| Operation temperature range @charging    | 0~60℃                           |                           |              |
| Rated charge voltage                     | 56.8V                           |                           |              |
| Max charge voltage                       | 58.4±0.4V                       |                           |              |
| Over charge protection                   | 59.2V                           |                           |              |
| Allowed MAX charge current               | 100A                            | 140A                      | 150A         |
| Peak charge current                      | 110A 3S                         | 160A 2S                   | 160A 3S      |
| Rated charge current                     | 50A                             | 140A                      | 150A         |
| Recommended charge method                | CC-CV                           |                           |              |
| Standard Discharge                       |                                 |                           |              |
| Operation temperature range @discharging | -20~60℃                         |                           |              |
| Output Voltage Range                     | 44.8~57.6V                      |                           |              |
| Discharge Cut-off voltage                | 42.4V                           |                           |              |
| Allowed MAX discharge current            | 110A                            | 140A                      | 150A         |
| Peak discharge current                   | 110A 3S                         | 160A 2S                   | 160A 3S      |
| Rated discharge current                  | 100A                            | 140A                      | 150A         |
| Recommend discharge current              | 100A                            | 140A                      | 150A         |
| Mechanical Characteristics               |                                 |                           |              |
| Dimension W*D*H                          | 483*450*177mm                   | 547*900*250mm             |              |
| Weight(N.W)                              | 52KG                            | 130KG                     |              |
| Communication                            |                                 |                           |              |
| RS485                                    | PC control and monitor          |                           |              |
| CAN                                      | Inverter PC control and monitor |                           |              |
| Storage and Transportation Requirements  |                                 |                           |              |
| Storage Temperature                      | Less than 1 month               | -20~35℃                   |              |
|                                          | Less than 6 month               | -10~30℃                   |              |
| Storage Humidity                         | 45~75%RH                        |                           |              |
| SOC                                      | Storage                         | 60~75%SOC                 |              |
|                                          | Transport                       | 45~55%SOC                 |              |

# PV Combiner Box

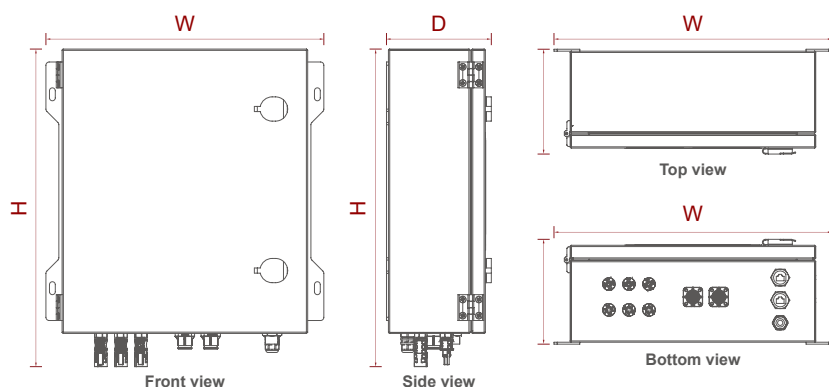
With Built-in MPPT



## • Features

- IP65 protection grade, can be installed outdoor.
- Integrated MPPT modular.
- System Voltage 48 VDC.
- Number of PV inputs, 2 Strings & 3 Strings & 6 Strings.
- Anti-backflow protection.
- Reverse connection protection.

## • Product Dimensions



| Model | Size(W*D*H)(mm) |
|-------|-----------------|
| 20A   | 280*190*140     |
| 40A   | 390*360*140     |
| 60A   | 430*163*492     |
| 120A  | 520*163*778     |

## • Technical Parameter

| PV Combiner Box                      |                                                                                                                                                                                          |             |                          |           |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------|-----------|
| Model                                | 20A                                                                                                                                                                                      | 40A         | 60A                      | 120A      |
| Nominal System Voltage               | 48 VDC                                                                                                                                                                                   |             |                          |           |
| Max. Battery Current                 | 20 Amp                                                                                                                                                                                   | 40 Amp      | 60 Amp                   | 120 Amp   |
| Max. Solar Input Voltage             | 100V                                                                                                                                                                                     |             | 150V                     |           |
| PV Array MPPT Voltage Range          | 30-100VDC                                                                                                                                                                                |             | (Bat. Voltage+5V)-115VDC |           |
| Max.Input Power                      | 1000 Watt                                                                                                                                                                                | 2000 Watt   | 3200 Watt                | 6400 Watt |
| Protections                          | Solar high voltage disconnect;Solar high voltage reconnect;<br>Battery high voltage disconnect;Battery high voltage reconnect;<br>High temperature disconnect;High temperature reconnect |             |                          |           |
| Charging Algorithm                   | 3-Step                                                                                                                                                                                   |             |                          |           |
| Charging Stages                      | Bulk, Absorption, Float                                                                                                                                                                  |             |                          |           |
| Charging Set Points                  | Absorption Stage/Float Stage                                                                                                                                                             |             |                          |           |
| Flooded Battery                      | 58.4V/54V                                                                                                                                                                                |             |                          |           |
| AGM/Gel Battery (Default)/Customized | 56.4V/54V                                                                                                                                                                                |             |                          |           |
| Over-charging Voltage                | 60V                                                                                                                                                                                      |             |                          |           |
| Over-charging Comeback Voltage       | 58V                                                                                                                                                                                      |             |                          |           |
| Battery Defect Voltage               | 34V                                                                                                                                                                                      |             |                          |           |
| Battery Defect Comeback Voltage      | 36V                                                                                                                                                                                      |             |                          |           |
| Number Of PV Inputs                  | 2 Strings                                                                                                                                                                                | 2 Strings*2 | 3 Strings                | 6 Strings |
| Number Of DC Outputs                 | 1 (Support customization for output number)                                                                                                                                              |             |                          |           |
| Protection Level                     | IP65                                                                                                                                                                                     |             |                          |           |
| Application                          | Solar PV System/Energy Storage System                                                                                                                                                    |             |                          |           |
| DC Fuse                              | /                                                                                                                                                                                        | 250VDC 50A  |                          |           |
| Connection Type DC Input             | PV MC4 Connector, IP65                                                                                                                                                                   |             |                          |           |
| Over Current Protection              | Yes                                                                                                                                                                                      |             |                          |           |
| Short Circuit Protection             | Yes                                                                                                                                                                                      |             |                          |           |
| Surge Protection                     | Yes                                                                                                                                                                                      |             |                          |           |

# MPPT SCM4860

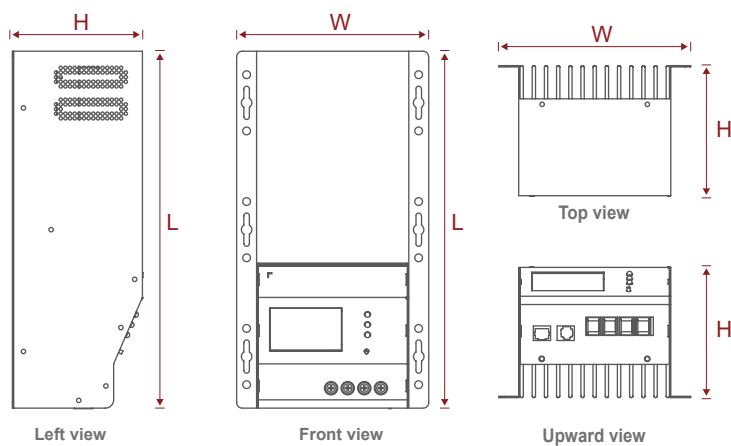
## Advanced MPPT Solar Charger Controller



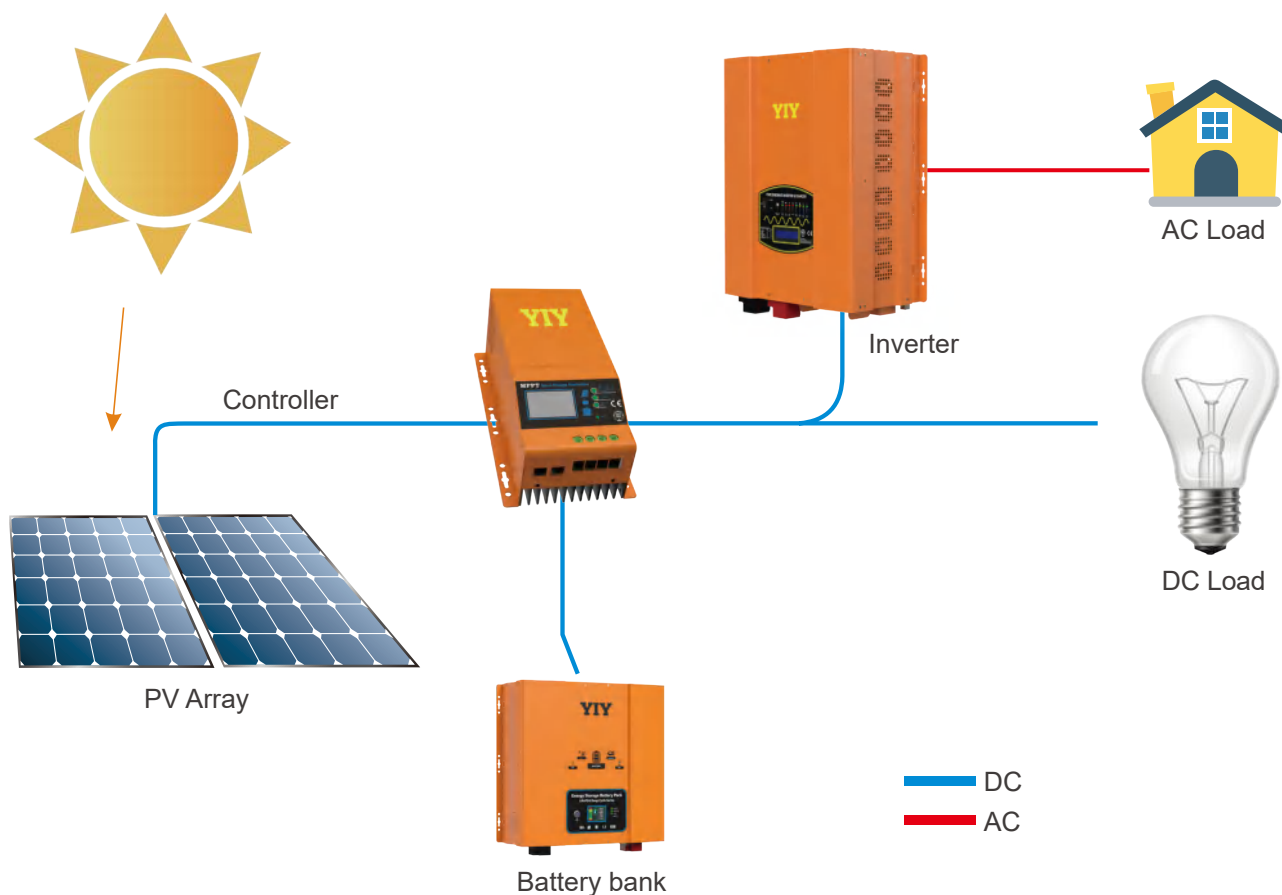
### • Features

- Intelligent Max. Power Point Tracking technology increases efficiency 25%~30%.
- Compatible for PV systems in 12V,24V or 48V.
- Three-stage charging optimizes battery performance.
- Max. charging current up to 60A.
- Max. efficiency up to 98%.
- Battery Temperature Sensor (BTS) automatically provides temperature compensation.
- Automatic battery voltage detection.
- Support wide range of lead-acid batteries including wet, AGM and gel batteries, LiFePO4 battery packs.

### • Product Dimensions



| Model    | Size(L*W*H)(mm) |
|----------|-----------------|
| MPPT 3KW | 322*173*118     |



### • Technical Parameter

| MPPT Solar Charge & Discharge Controller |                                                                  |                                 |                         |                   |
|------------------------------------------|------------------------------------------------------------------|---------------------------------|-------------------------|-------------------|
| Model                                    | 3KW                                                              | Charging Set points             | Absorption Stage        | Float Stage       |
| Nominal System Voltage                   | 12, 24, or 48 VDC (Auto detection)                               | Flooded Battery                 | 14.6 / 29.2 / 58.4Vdc   | 13.5 / 27 / 54Vdc |
| Maximum Battery Current                  | 60 Amp                                                           | AGM/Gel Battery (Default)       | 14.1 / 28.2 / 56.4Vdc   | 13.5 / 27 / 54Vdc |
| Maximum Solar Input Voltage              | 145Vdc                                                           | Over-charging Voltage           | 15Vdc / 30Vdc / 60Vdc   |                   |
| PV Array MPPT Voltage Range              | (Bat. Voltage+5)-115Vdc                                          | Overcharging Comeback Voltage   | 14.5Vdc / 29Vdc/ 58Vdc  |                   |
| Max. Input Power                         | 12 Volt--800 Watts<br>24 Volt--1600 Watts<br>48 Volt--3200 Watts | Battery Defect Voltage          | 8.5Vdc/ 17Vdc/ 34Vdc    |                   |
| Transient Surge Protection               | 4500 Watts / port                                                | Battery Defect Comeback Voltage | 9Vdc / 18Vdc / 36Vdc    |                   |
| Temperature Compensation Coefficient     | Volt-5 mV/°C/ cell (25 °C ref.)                                  | Mechanical And Environment      | Product size (L*W*H mm) | 322*173*118       |
| Temperature Compensation                 | 0°C ~ 50°C                                                       | Product Weight (KG)             | 4.8                     |                   |
| Charging Stages                          | Bulk, Absorption, Float                                          | Enclosure                       | IP31 (indoor & vented)  |                   |

# 560W-600W Solar Panel

## Bifacial Monocrystalline Module



### • Features

- Higher Power Output
- Multi Busbar Technology
- PID Resistance
- Low-light Performance
- Durability Against Extreme Environmental Conditions
- EL Full Inspection



### • Technical Parameter

#### Specifications(BNPI)

|                               |            |       |       |       |       |       |       |       |       |
|-------------------------------|------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Rated Power in Watts-Pmax(Wp) | 619.1      | 624.9 | 629.9 | 635.3 | 641.1 | 647.0 | 652.5 | 658.8 | 665.2 |
| Open Circuit Voltage-Voc(V)   | 52.65      | 52.81 | 52.97 | 53.13 | 53.29 | 53.45 | 53.61 | 53.77 | 53.93 |
| Short Circuit Current-Isc(A)  | 14.81      | 14.91 | 14.98 | 15.05 | 15.13 | 15.21 | 15.28 | 15.34 | 15.41 |
| Max. Power Voltage-Vmpp(V)    | 44.32      | 44.46 | 44.59 | 44.81 | 45.04 | 45.26 | 45.48 | 45.70 | 45.92 |
| Max. Power Current-Impp(A)    | 13.97      | 14.06 | 14.13 | 14.18 | 14.24 | 14.30 | 14.35 | 14.42 | 14.49 |
| Power Tolerance               | 0~+3%      |       |       |       |       |       |       |       |       |
| Operating Temperature         | -40°C~85°C |       |       |       |       |       |       |       |       |

\*BNPI: Irradiance: front 1000W/m<sup>2</sup>, rear 135W/m<sup>2</sup>, Cell Temperature 25°C, AM=1.5

#### Electrical Characteristics (STC\*)

|                               |                                           |       |       |       |       |       |       |       |       |
|-------------------------------|-------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Rated Power in Watts-Pmax(Wp) | 560                                       | 560   | 570   | 575   | 580   | 585   | 590   | 595   | 600   |
| Open Circuit Voltage-Voc(V)   | 52.45                                     | 52.45 | 52.77 | 52.93 | 53.09 | 53.26 | 53.41 | 53.57 | 53.73 |
| Short Circuit Current-Isc(A)  | 13.47                                     | 13.47 | 13.62 | 13.69 | 13.76 | 13.83 | 13.89 | 13.95 | 14.01 |
| Max. Power Voltage-Vmpp(V)    | 44.12                                     | 44.12 | 44.39 | 44.61 | 44.84 | 45.06 | 45.28 | 45.50 | 45.72 |
| Max. Power Current-Impp(A)    | 12.71                                     | 12.71 | 12.85 | 12.90 | 12.95 | 13.00 | 13.06 | 13.12 | 13.18 |
| Module Efficiency(%)          | 21.67                                     | 21.67 | 22.06 | 22.25 | 22.44 | 22.6  | 22.8  | 23.02 | 23.22 |
| Maximum System Voltage        | 1500V DC                                  |       |       |       |       |       |       |       |       |
| Fuse Rating(A)                | 30                                        |       |       |       |       |       |       |       |       |
| Temperature Coefficient Pmax  | -0.29%/°C                                 |       |       |       |       |       |       |       |       |
| Temperature Coefficient Isc   | 0.045%/°C                                 |       |       |       |       |       |       |       |       |
| Temperature Coefficient Voc   | -0.25%/°C                                 |       |       |       |       |       |       |       |       |
| Refer. Bifacial Factor        | ΦIsc=80%±10%, ΦVoc=100%±3%, ΦPmax=80%±10% |       |       |       |       |       |       |       |       |

\*STC: Irradiance 1000W/m<sup>2</sup>, module temperature 25°C, AM=1.5

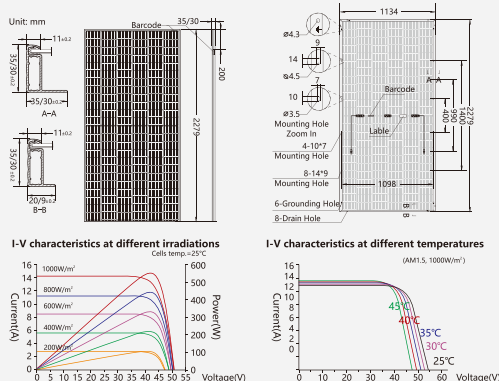
#### Mechanical Characteristics

|                        |                                                            |
|------------------------|------------------------------------------------------------|
| Number of Cells        | 144pcs                                                     |
| Type of Cell           | N-TOPCon Mono                                              |
| Thickness of Glass(mm) | 2.0                                                        |
| Type of Frame          | Anodized Aluminum Alloy                                    |
| Size of Module(mm)     | 2279×1134×30                                               |
| Weight(kg)             | 32                                                         |
| Junction Box           | IP68, 1500V DC, 3 Diodes                                   |
| Cables/Connectors      | 4.0mm <sup>2</sup> , MC4 compatible                        |
| Length of Cable        | +300mm/-200mm Length can be customized(connector included) |

#### Packaging Configuration

|                                           |                |                |
|-------------------------------------------|----------------|----------------|
| Height of Modules (mm)                    | 35             | 30             |
| Number of Modules Per Pallet              | 31             | 36             |
| Packaging Box Dimensions (l×w×h) (mm)     | 2300×1120×1260 | 2300×1120×1260 |
| Box Gross Weight (kg)                     | 1020           | 1180           |
| Number of Modules Per 40ft (HQ) Container | 620            | 720            |
| Number of Pallets Per 40ft (HQ) Container | 20             | 20             |

#### Dimensions of PV Module



# 600W-630W Solar Panel

## Bifacial Monocrystalline Module



### • Features

- Higher Power Output
- Multi Busbar Technology
- PID Resistance
- Low-light Performance
- Durability Against Extreme Environmental Conditions
- EL Full Inspection



### • Technical Parameter

#### Electrical Characteristics (STC\*)

| Rated Power In Watts-Pmax(Wp) | 600       | 605   | 610   | 615   | 620   | 625   | 630   |
|-------------------------------|-----------|-------|-------|-------|-------|-------|-------|
| Open Circuit Voltage-Voc(V)   | 48.40     | 48.70 | 49.00 | 49.30 | 49.60 | 49.80 | 50.30 |
| Short Circuit Current-Isc(A)  | 15.80     | 15.83 | 15.86 | 15.89 | 15.91 | 15.93 | 15.94 |
| Max. Power Voltage-Vmpp(V)    | 40.30     | 40.50 | 40.80 | 41.10 | 41.40 | 41.60 | 42.00 |
| Max. Power Current-Imp(A)     | 14.91     | 14.94 | 14.96 | 14.98 | 14.99 | 15.00 | 15.01 |
| Module Efficiency(%)          | 22.20     | 22.40 | 22.60 | 22.80 | 23.00 | 23.10 | 23.32 |
| Maximum System Voltage        | 1500V DC  |       |       |       |       |       |       |
| Fuse Rating(A)                | 30        |       |       |       |       |       |       |
| Temperature Coefficient Pmax  | -0.30%/°C |       |       |       |       |       |       |
| Temperature Coefficient Isc   | 0.046%/°C |       |       |       |       |       |       |
| Temperature Coefficient Voc   | -0.25%/°C |       |       |       |       |       |       |
| Refer. Bifacial Factor        | 80±5%     |       |       |       |       |       |       |

\*STC: Irradiance 1000W/m<sup>2</sup>, module temperature 25°C, AM=1.5

#### Working Characteristics (NOCT\*)

| Rated Power In Watts-Pmax(Wp) | 457         | 461   | 465   | 469   | 473   |
|-------------------------------|-------------|-------|-------|-------|-------|
| Open Circuit Voltage-Voc(V)   | 37.75       | 37.92 | 38.09 | 38.26 | 38.44 |
| Short Circuit Current-Isc(A)  | 12.11       | 12.16 | 12.21 | 12.26 | 12.31 |
| Max. Power Voltage-Vmpp(V)    | 46.03       | 46.22 | 46.41 | 46.60 | 46.70 |
| Max. Power Current-Imp(A)     | 12.86       | 12.92 | 12.98 | 13.04 | 13.10 |
| Power Tolerance               | 0~+3%       |       |       |       |       |
| NOCT                          | 45°C ±2°C   |       |       |       |       |
| Operating Temperature         | -40°C ~85°C |       |       |       |       |

\*NOCT: Irradiance 800W/m<sup>2</sup>, ambient temperature 20°C, wind speed 1m/s

#### Electrical characteristics with different rear side power gain

|     | Pmax/W | Voc/V | Isc/A | Vmpp/V | Imp/A |
|-----|--------|-------|-------|--------|-------|
| 5%  | 661    | 50.30 | 16.74 | 42.00  | 15.76 |
| 10% | 693    | 50.30 | 17.53 | 42.00  | 16.51 |

The additional gain from the rear side compared to the power of the front side at the standard test condition.

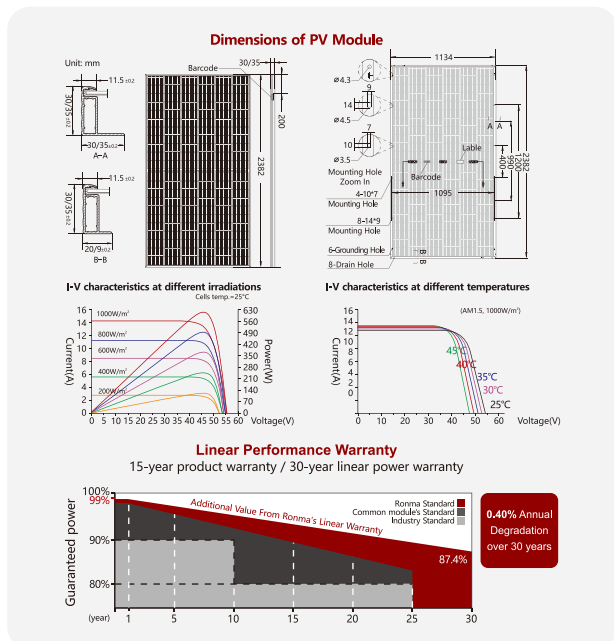
It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

### Mechanical Characteristics

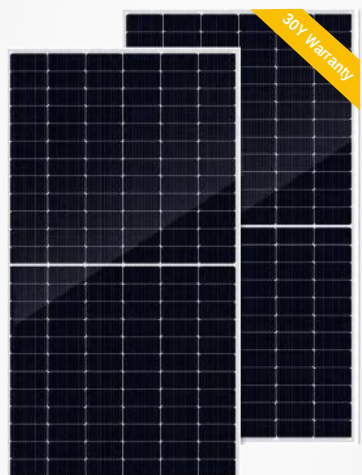
|                        |                                                                                 |
|------------------------|---------------------------------------------------------------------------------|
| Number of Cells        | 132pcs                                                                          |
| Type of Cell           | N-TOPCon Mono                                                                   |
| Thickness of Glass(mm) | 2.0                                                                             |
| Type of Frame          | Anodized Aluminum Alloy                                                         |
| Size of Module(mm)     | 2382×1134×35/30                                                                 |
| Weight(kg)             | 33                                                                              |
| Junction Box           | IP68, 1500V DC 3 Diodes; Cables/connectors; 4.0mm <sup>2</sup> , MC4 compatible |
| Length of Cable        | +300mm/-200mm Length can be customized(connector included)                      |

### Packaging Configuration

|                                           |                |                |
|-------------------------------------------|----------------|----------------|
| Height of Modules (mm)                    | 35             | 30             |
| Number of Modules Per Pallet              | 31             | 36             |
| Packaging Box Dimensions (l×w×h) (mm)     | 2485×1120×1260 | 1260×1120×2595 |
| Box Gross Weight (kg)                     | 955            | 1225           |
| Number of Modules Per 40ft (HQ) Container | 496            | 720            |
| Number of Pallets Per 40ft (HQ) Container | 20             | 20             |



## Bifacial Monocrystalline Module



- **Features**

- Higher Power Output
- Multi Busbar Technology
- PID Resistance
- Low-light Performance
- Durability Against Extreme Environmental Conditions
- EL Full Inspection



- **Technical Parameter**

### Specifications(BNPI)

[illegible]

\*BNPI: Irradiance: front 1000W/m<sup>2</sup>, rear 135W/m<sup>2</sup>, Cell Temperature 25°C, AM=1.5

### Electrical Characteristics (STC\*)

[illegible]

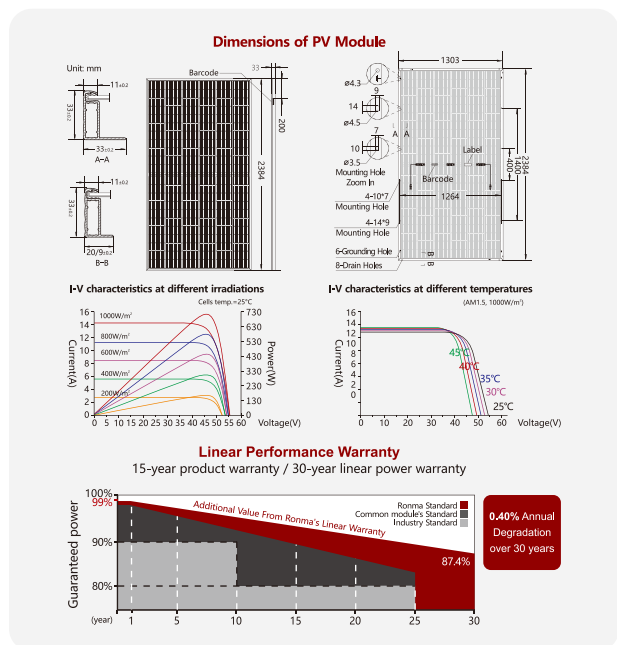
\*STC: Irradiance 1000W/m<sup>2</sup>, module temperature 25°C , AM=1.5

### Mechanical Characteristics

|                        |                                                            |
|------------------------|------------------------------------------------------------|
| Number of Cells        | 132pcs                                                     |
| Type of Cell           | N-TOPCon Mono                                              |
| Thickness of Glass(mm) | 2.0                                                        |
| Type of Frame          | Anodized Aluminum Alloy                                    |
| Size of Module(mm)     | 2384×1303×33                                               |
| Weight(kg)             | 37.5                                                       |
| Junction Box           | IP68, 1500V DC, 3 Diodes                                   |
| Cables/Connectors      | 4.0mm², MC4 compatible                                     |
| Length of Cable        | +350mm/-250mm Length can be customized(connector included) |

## Packaging Configuration

|                                           |                |
|-------------------------------------------|----------------|
| Height of Modules (mm)                    | 33             |
| Number of Modules Per Pallet              | 33             |
| Packaging Box Dimensions (l×w×h) (mm)     | 1326×1140×2515 |
| Box Gross Weight (kg)                     | 1280           |
| Number of Modules Per 40ft (HQ) Container | 594            |
| Number of Pallets Per 40ft (HQ) Container | 18             |







**Energy Storage System  
&  
Power Quality System Provider**

## **ELEQTRA ENERGY (PTY) LTD**

Tel: +27 710 888 888 / +86 133 3606 4501

Email: [sa@eleqtraenergy.com](mailto:sa@eleqtraenergy.com) / [china@eleqtraenergy.com](mailto:china@eleqtraenergy.com)

Website: [eleqtraenergy.com](http://eleqtraenergy.com)

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### **Africa**

Add: Unit 10, Lincorp Industrial Park, 21 1st Rd, Linbro Park,  
Sandton, 2090, South Africa

### **China**

Add: No. Building A, Yongtong Guomao Plaza, Keqiao District,  
Shaoxing City, Zhejiang Province, China